THE CONSISTENCY OF

HUMAN SPATIAL BEHAVIOUR:

An Assessment using Play Therapy, with special reference to Personal Space.

A Thesis

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ABSTRACT

This study was undertaken to clarify some principle notions concerning human spatial behaviour, with special reference to Personal Space, and to assess the consistency or fluidity of spatial responses among children.

In review, the concept of Personal Space is analysed, and important distinctions drawn between it and other concepts of spatial behaviour. Some central components of the Personal Space response are discussed.

Previous research indicates spatial responses at variance with the norm (i.e. much larger or much smaller) among emotionally disturbed children. Experimentally, changes in spatial response were monitored as a consequence of intervention in the form of a series of one hour sessions of non directive Play Therapy (after Axline 1947; Rogers 1951). A test of spatial orientation (modified from Kuethe 1962) is presented and was administered before and after intervention to a group of six and seven year old primary school children with noticeable emotional problems as assessed by an evaluatory interview. Subjects were drawn from primary schools and foster homes in the Christchurch district. Of the source schools, one was of Open Plan design, the other two of Traditional Plan design. A comparison between the spatial responses of subjects from each was undertaken as part of the overall experiment.

Analysis by ANOVA revealed a marked pre/post intervention shift in responses, but no significant treatment effect attributable to the therapeutic intervention. No significant differences were observed in the spatial responses between children from Open Plan and Traditional Plan schools.

Results are explained in terms of (1) inconsistencies in spatial responding among children with mild emotional disorders, contrary to other research indicating a substantial fixity of response among normals, and (2) the effects of environmental variables resident in the environments from which the subjects came.

CHAPTER I

INTRODUCTION

The pursuit of an ordered and structured framework for the analysis of behaviour is an occupation fundamental to the discipline of Psychology. It is unfortunate however, that this pursuit is at times impeded by an imbalance between the level of complex theoretical formulation and an adequately supportive data base. In many branches of the discipline, there exists a veritable ocean of anecdotal and empirical research findings only loosely held together by a molar theoretical statement. In others, the converse is true. This is particularly so with regard to those fields only newly developed. Indeed, the relative age and maturity of a field can, to some extent, be assessed in part by the degree of validation one has for the other, and partially by the degree of sophistication that permeates that field in both theory and technique.

The present research is an attempt to redress this imbalance in part, where it occurs with regard to the study of spatial behaviour, that aspect of the individual/environment interphase which consists of Man's lawful arrangement and enaction of behaviours which utilize and find their expression in three dimensional space. A survey of the literature on this topic exposes the somewhat paradoxical situation where an impressive body of differentiated empirical explorations of the subject matter co-exists with a relative deficiency of knowledge of more basic issues; and worse, a notable confusion of terminology reflecting a fragmented inter-disciplinary approach to the topic in general. Specific information about the nature of spatial responses is sparse while research into the links between certain patterns of spatial behaviour and other variables

(such as personality, racial group, sex and age, non verbal behaviour, affiliation etc) abounds. This is especially true of the concept of Personal Space, defined as the area surrounding an individual which is characteristically his[1], and which defines the limits of physical separation he maintains from others. In response thereto, this work considers some basic and pertinent issues concerning the nature of such behaviour. The question to which it is addressed investigates the consistency of an observed spatial response; i.e. is this response transient and fluid, or can it be seen to be fixed, concrete in some way; malleable or unimpressionable?

This thesis then, will begin by offering, in Chapter II, an introduction to and critical discussion of some central concepts and notions about spatial behaviour in general, and Personal Space in particular. Some important relationships will be outlined, with special emphasis on the link between spatial responses and human interaction. It is becoming commonly accepted that such behaviour is best understood couched in the framework of interpersonal psychology and the present work will follow this orientation.

Chapter III raises the issue of the effects of a certain physical and social environment on spatial behaviour in the context of the educational setting. Current educational practices have tended to adopt the perspective of Open Plan education, a philosophy about teaching and learning translated into an effective physical environment in terms of the architectural design of classroom buildings. Given the efficacy of environmental and social factors operative on spatial behaviour, a hypothesis investigating the differences in patterns of spatial response between pupils

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1. Throughout this thesis, where the context requires, the pronouns he, him, his should be taken to indicate both sexes.

from Open Plan schools and those of Traditional Plan schools was developed. The rationale for this hypothesis is described in Chapter III.

Central to this thesis, and as a means by which the question posed earlier can be confronted, a technique for modifying behaviour will be examined in Chapter IV. Notions of Play will be discussed, along with a consideration of the psychotherapeutic technique known as Play Therapy. This technique is fundamentally a practical expression of the broader phenomenological conceptualization of Man. The approach, essentially of Humanistic stock, has best been developed by Carl R. Rogers, and stands in sharp contrast to other psychological paradigms, such as Psycho Analysis, and the social learning approach of contemporary behaviour therapy. The efficacy of one orientation over another is an issue not strictly relevant to the present study, suffice it to say that the Rogerian perspective was adopted over and above the others for three main reasons; one, it intuitively appeared to be more related to the subject matter in terms of its recognition of cognitive factors than did the externally centred philosophy of strict behaviour modification (and thus to some extent reflects the bias of the researcher); two, it was felt that non directive psychotherapy of this kind constituted less of an invasion of privacy than did other therapies, given the diminished degree of responsibility the researcher was required to adopt in the course of the work; and three, the overall emphasis was not to induce a change in problem behaviours as such, but rather to develop a stable relationship with the subjects, and observe the changes in their Personal Spaces which may or may not ensue as a result.

Chapters V and VI document the experimental design, procedure and results which develop and test a hypothesis concerning the question referred to earlier, based on the literature surveyed in Chapter II. A

discussion follows in Chapter VII. It should be stressed at this point however, that the present research is of pilot study status since it brings together two aspects of Psychology not usually treated together in the literature. Further, a modified measurement device for spatial behaviour is developed and presented in this work. It would be somewhat pretentious to make any far reaching conclusions on the grounds of its inaugural usage here. Reliability ratings are included for the test, but clearly, it must be given time to allow its utility and efficacy to be further demonstrated in continued research.

CHAPTER II

HUMAN SPATIAL BEHAVIOUR AND PERSONAL SPACE

Some thirty inches from my nose
The frontier of my person goes,
And all the unstilled air between
Is private pagus or demesne.
Strange, unless with bedroom eyes
I beckon you to fraternize,
Beware of rudely crossing it;
I have no gun, but I can spit.

W. H. AUDEN - "Prologue, the birth of Architecture".

As a subject for poetic writing, the concept of Personal Space may lack the romantic and aesthetic poise and charm that befits most themes in that field, yet it purports to be one of great promise and interest to those in other endeavours. Indeed, the theme of Man's use of space in terms of interpersonal behaviour has been coverted by a great many disciplines, including Anthropology, Ecology, Ethology, Psychology, Sociology, and, as demonstrated by Auden, even Architecture and Design. The current approach is one in which the whole conceptual framework of spatial behaviour is subsumed under the title of Environment Psychology, that branch of the discipline which deals with the reciprocal relationship between the physical environment and human behaviour.

Only in recent years has the study of human spatial behaviour been emphasized to any great extent, primarily from the experimental quarter. To many, the paucity of theoretical discussion on such behaviour is notable (Evans & Howard 1973). Indeed, theory in Environmental Psychology has been described as "prenatal" (Proshansky, Ittelson & Rivlin 1976). One of the main reasons for this lies in the fact that Environmental Psychology is essentially interdisciplinary, and thus the development of an adequate model relies to a large extent on advances in other fields. Much of the knowledge that does exist is situation specific, almost ad hoc in nature, and stems rather indiscriminantly from a variety of sources. Only since the 1950's has the generation of a molar framework which attempts to bind together the amporphous variables of behaviour into a cohesive explanatory model been evident. Even so, little exists beyond the level of description.

Environmental Psychology then, attempts to explore the relationships between behaviour and individual experience within the setting of the physical environment. At this level, its core philosophy is related in principle to the behavioural proposition which asserts that the environment,

of which the physical setting is a major component, determines, and to a degree emerges as a function of behaviour. Early writers attempted to explain spatial behaviour in terms of a unitary phenomenon, i.e. as a unidimensional whole, but as the field has developed, this initial premise has become redundant in the light of the increasing complexities of spatial behaviour which have become apparent. While it is relatively easy to reduce the number of concepts required for the explanation of spatial behaviour, causative and determinative factors are not so readily reductive.

It is not the purpose of this review to detail the aetiology of spatial behaviour in all its variations and expressions, but rather to present a broad overview of some pertinent issues with regard to the definition and explanation of Personal Space, a core concept in the socio-psychological approach to human spatial behaviour. This review will centre on a theoretical discussion with the view to clarifying the terminological pot-pourri within which the concept of Personal Space is concealed, as well as outlining some major research findings over the last three decades.

> The concept itself is of rather wide concern -
> "... major findings ... are reported in the fields of clinical psychology, demographic studies ... (and studies of) affinity and familiarity".
>
> (Evans & Howard 1973; p.334).

It is less than fortunate however, that most of these findings have been obtained by techniques not considered really objective. As mentioned previously though, the field is young, and much has been done by the anthropologist Edward T. Hall (1959; 1969; 1974), who coined the term 'Proxemics' to represent the study of interpersonal distance, and to objectify spatial research. The inaugural usage of the term Personal Space is attributable to Katz (1937).

1. THE CONCEPT OF PERSONAL SPACE

To define the concepts of spatial behaviour is no mean feat, since in obtaining adequate working definitions, one encounters the first of many theoretical problems in the field. Careless treatment of definitions is inexcusable in any science which purports to be objective, yet the term 'Personal Space' has been treated as a pool for residual ideas about ethological and psychological principles not well defined or established elsewhere. Leibman points out that "while there is an apparent consensus of

> the general meaning of "personal space", it seems to have become a catchall term for a number of variables with different conceptual and operational definitions". (Leibman 1970; p.209).

Bearing this in mind then, Personal Space is most commonly talked of as -

> "an area with invisible boundaries surrounding a person's body into which intruders may not come".
>
> (Sommer 1969; p.26).

It has been likened to 'breathing room', or some sort of social aura, a kind of metaphysical bubble. Baron & Byrne (1977) argue that this bubble is maintained by the individual between himself and other people. What is notable about these definitions is that they give the impression that Personal Space is a very physical phenomenon. This may be quite misleading. It is still uncertain as to whether or not this concept denotes a physical zone, or a cognitive structure or implicit schemata. It is this uncertainty which lies at the heart of the majority of definitional problems faced in this field. Further, these views are quite opaque in their reference to 'intruders', or others. Leibman attempts to be more succinct.

> "Personal Space is conceived as an expanding or contracting ring or bubble surrounding the individual which defines the physical separation he requires in relation to others, with respect to specific activities and defined relationships".
>
> (Leibman 1970; p.209).

Clearly, this formulation defines the notion in a more precise way, for specificities in terms of activities and relationships (of an interpersonal nature) are noted. This is an important point to grasp, for early ideas of Personal Space tended to regard this dimension as constantly and consistently in existence, without reference to the contextual situation, and with a certain degree of fixity (an assumption which has considerably reduced the reliability and validity of these studies). Hall (1966) correctly notes that under certain conditions, (intimacy, crowding), Personal Space seems to disappear. Even physiological and perceptual cues such as olfaction are overridden. Equally clear however, is the fact that the precise nature of Personal Space still remains to be established. Is Personal Space solely a physical dimension, or is it a behavioural system? Theories of cognition have thus far been unable to offer a solution to this problem. The relationship between actual cognitive sets and spatial responses is not yet firmly established (Baines 1977). Social schemata research is out of harmony, both temporally and qualitatively, with research on cognitive development, and so little more than speculation can be offered. Leibman makes the distinction between the physical and the psychological component by arguing that Personal Space can best be described as a psychological variable which intervenes between antecedent environmental conditions and personal constructs, and which gives rise to consequent interpersonal behaviour. Summarily then, a spatial response of this kind is fundamentally a synthesis of two variables at work; the behavioural expression (in

terms of three dimensional space), of a psychological schema. The degree to which either or both are determined by innate factors, or merely are products of learning has yet to be established.

2. PERSONAL SPACE OR TERRITORY

Fundamental to any discussion of spatial behaviour is the question of where all of the relevant explanatory concepts of the behaviour lie with regard to one another. Given the interdisciplinary approach to the topic, there often occurs a duplication of ideas from one term to the next, both at a macrocosmic and microcosmic level, resulting in many confusions. One of particular importance is that concerning the relationship between Personal Space and Territory. The former has often been regarded as little more than a subset of the latter; a notion which most likely has its roots in the evolutionary links between animals clearly exhibiting territorial behaviour and Man himself. Territorial behaviour is observable throughout the vertebrate subphylum, and it is commonly held that the mechanisms which govern such behaviour at any one point on the scale are similar in principle to those at any other point. Ethological ideas concerning territoriality have largely been responsible for providing a framework for the analysis of almost all spatially oriented behaviour, although not without spirited opposition from other quarters. Writers have argued from both sides of the fence, but again, the problem seems to be one of definition, both theoretical and operational.

In 1965, K. B. Little stated definitively that

> "clearly, (personal space) is a form of Territory".
>
> (Little 1965, p.237).

Indeed, the terms 'body territory' and 'portable territory' have become used synonomously with Personal Space, which reflects the degree to which the ethological perspective has percolated through general interpretations of individual spatial usage.

Only to confuse the issue, social and behavioural psychologists have developed and maintained very much a social learning perspective and have flooded the market, as it were, with their own terms and phrases. This has resulted in what can essentially be described as a bio-ethological versus a socio-psychological conflict. Many of the terms and concepts that have arisen to popular usage have rendered the distinction between these two viewpoints rather unclear, and are found in numerous quantities in the literature. Some of these terms are: intimate distance, personal distance, social distance, portable territory, body territory, personal field and life space. Others too, are mentioned from time to time, but are of little significance.

The first three of these terms are now recognised as falling under Hall's terminological umbrella in his analysis of interaction distance, and will be considered later. Portable Territory and Body Territory are terms generally considered in a context other than the social learning paradigm, and thus are strongly akin to and are a part of the ethological approach.

Personal Field is a term belonging to McBride (1968). However, it is acknowledged that this is for all intents and purposes the same as Sommer's use of Personal Space, and so it will be considered as part and parcel of this concept. Kurt Lewin is most often credited with the development of the "life space" ideal, although Fritz Heider is also noted to have used it. This phrase refers to the awareness of, and events in a

person's surroundings, both social and physical. It does not attempt to incorporate any notions of spatiality, and is thus not strictly related to the debate at hand. What remains then, is the question of whether or not Personal Space (and its associated variations), is another form of ethological Territory.

The Concept of Territory

To the ethologist, 'Territory' refers to -

> "an area which is first rendered distinctive by its owner in a particular way, and secondly, is defended by the owner".
>
> (Hediger 1950, p.9).

Correspondingly, territoriality, (or territorial behaviour) is the staking out and defending of geographic areas against intruders, usually members of one's own species. The attributes of Territoriality and its associated concepts in sub human species are well described by Hediger (1950; 1955; 1961). Territoriality in humans is again well outlined by Edney (1974).

In his article, Edney offers some of the more influential definitions of human territoriality for consideration. A sample of them will help to give some idea of the flavour of the formulations.

Lorenz (1969): Territorial (behaviour) is the defence of a given area.

Ardrey (1966): A territory is an area of space, water, earth or air - that an animal or group defends as an exclusive preserve, primarily against members of their own species.

Hall (1959): The act of laying claim to and defending a territory.

Sommer (1966) (Territory) is an area controlled by an individual, family or other face to face collectivity. The emphasis is on physical possession, actual or potential, as well as defence.

Some writers have attempted to circumvent the operational restriction of the notion of defence. Sundstrom & Altman (1974) - Territorial behaviour (is) habitual use of particular spatial locations.

Apart from more recent perspectives, the most common elements of human territoriality (a claim to a physical territory, and the exclusive use and defence of the same) are similarly observed in subhuman animals.

On the basis of a variety of hypotheses, Edney makes a seven fold distinction between the territorial behaviour of humans and subhuman species. These can be summarized as follows:-

(1) Subhuman species employ space in a very stereotypic, almost pre-programmed way, contrasted to the more various and anomalous use of space by humans. This suggests that the genetic or innate basis of territoriality in animals, such as it is, may have become weakened in Man, and more easily modified by learning.

(2) The fundamental tenet of the relationship between Aggression and Territorial behaviour among animals is less well defined and applicable to Man.

(3) Basic biological needs appear to motivate the behaviour in animals (Carpenter (1958) lists 32 different functions of Territoriality), whereas Man utilizes space for a variety of more abstract occupations; e.g. recreation, art etc.

(4) Animals seem to be monogomous in their territorial behaviour; humans seem to have a polygamous relationship with many spatial zones.

(5) Humans time-share temporary territories; this is rare among lower order species.

(6) Man's increased mobility and capacity for aggression has rendered territorial boundaries less substantial than those of non humans.

(7) Humans routinely tolerate other members of the species in their territories without antagonism, where as no other species appears to do this, at least to the same degree.

On the basis of these distinctions, it can be argued that human territoriality is not strictly the same as the territorial behaviour exhibited by animals lower down on the evolutionary scale, thus attempts to generalize deterministic mechanisms from one species to another, especially to Man, are not altogether valid.

These distinctions speak only of differences between species however. What of differences within species! Are all the spatial behaviours exhibited by Man territorial behaviours? As noted previously, many writers have argued that they are one and the same. For others, the converse is true.

> "We needn't attribute the desire for Personal Space to some mysterious territorial instinct - distances preferences appear to be learned".
>
> (Berkowitz 1975, p.277).

The social learning paradigm is obvious. Yet there is some common ground between views. Ardrey (1966) notes that both Personal Space and territory are spatial areas. The latter is most definitely

physical, but this attribute may be applied cautiously and only partially to the former. There do appear, however, to be a number of dimensions along which meaningful differences are notable.

(a) Frame of Reference: Personal Space is distinct from Territory, according to Sommer (1969), on the grounds that it has no fixed geographic reference points. It is quite clearly a person or body centred phenomenon, which moved about with the individual. It is not affixed to a specific size (Personal Space is usually but not exclusively regarded as a volume - corresponding concepts of Interaction Distance are linear, while territory is measured as an area), and is not really group or environment centred. (That it does or does not have a group function is controversial, and will be taken up in discussion again at a later point). Herein may lie the most fundmental point of difference between the two. Territory in the ethological sense is both theoretically and operationally tied to the external geographic environment. Hediger, and the ethological school in general seem consistently to work from this basic tenet.

For Hediger, the notion of Individual (or Personal) Distance is important here. It is, if you like, his equivalent to Personal Space within the ethological paradigm. It refers to the normal spacing that non-contact species maintain. It has also been referred to as intraspecific spacing. It is not a fixed or absolute figure, but varies along a number of dimensions, including (1) the relationship between the individuals (e.g; a dominant monkey versus a submissive monkey); (2) the distance at which others in the situation are placed; and (3) the bodily posture and orientation of individuals, one to another. The difference between this notion and the concept of Personal Space lies in the fact that -

> "The violation of Individual Distance is the violation of society's expectations (in terms of dominance hierarchies etc.); the invasion of Personal Space is the intrusion into a person's self boundaries".
>
> (Sommer 1969; p.27).

It can be seen from Hediger's formulation then, that even within the ethological perspective itself, there is made a distinction between territory (and territoriality), and species spacing. An interparadigmatic distinction between Personal Space and Territory thus becomes rather more cogent.

(b) Relationship to defence and aggression: These two concepts differ with regard to their relationships to defence mechanisms and aggression, both in terms of direction and intensity. While Horowitz, Duff & Stratton (1964) maintain that Personal Space is not specifically tied to defence mechanisms as such (but does have a protective function to some degree), and Baron & Byrne suggest the opposite,

> "it functions as a buffer against a series of real or perceived threats".
>
> (Baron & Byrne 1977, p.608),

the literature with regard to this issue is not clear. The role of Personal Space in asserting and preserving the security and integrity of the individual is at best secondary or part in parcel of its more encompassing role as a regulator of social interaction. Contrarily, territoriality is almost always an aggression loaded response in terms of defence. Admittedly, this is less well established for humans than for animals, but nevertheless, aggressive behaviour is all too notable in humans with reference to both geographical space and personal possessions.

Further, defence reactions as part of Territoriality appear to become increasingly weaker from the centre of the territory and are not manifest beyond the territorial limits. Thus, at points of intersection between two individual's respective ranges they become neutral. Withdrawal responses to Personal Space intrusions are observable at any time in neutral spatial environments (Ardrey 1966). On this point, it has been hypothesized that Personal Space regulates distance between individuals; territoriality regulates who will interact. It is commonly noted that territory invasions are most often met with defensive behaviour when the invader is male (though not exclusively) and conspecific. Reactions to Personal Space violations are noted in response to both sexes. For sub humans then, this has specific consequences in terms of mating, food gathering, rearing of young, and population density control; i.e. it has important survival related functions. Spatial responses in Man do not seem to be survival related to the same degree and in the same way that territoriality is in other species.

(c) Determinative factors: The causal, facilitative and purposeful factors for each concept are not synonomous. While these remain not generally well understood, the following comments are pertinent. Hediger alluded to the fact that the term 'individual' (or personal) denotes an individually determined response rather than a biologically determined one. The thesis is that ethological principles are most commonly regarded as being motivated by innate biological schedules and are reciprocally determined by environmental triggers. Socio psychological notions make little if any appeal to internal causation - individual spatial behaviours are a function of learning and/or personal preference at a cognitive level. Innate causality is shunned for the latter, but is fundamental in terms of evolutionary development for the former.

To this point, the discussion has concentrated quite exclusively upon a conceptual clarifiaction of some major concepts of spatial behaviour. This is quite deliberate, for the discrepancies between ethological notions of spatial behaviour and other social and psychological ideas have resulted in a number of confusions (to say little of the discrepancies and confusions noted within each framework). Quite polar points of view have been expressed regarding the relationship of these notions one to another, and their respective aetiologies. The discussion then, has attempted to tease out important distinctions between the two for the reader to consider. An analysis of the functions and determining factors of Personal Space will, it is hoped, demonstrate why this distinction is necessary, and indeed by the same token, further reinforce the conceptual separation argued for hitherto.

3. THE FUNCTION OF SPATIAL BEHAVIOUR

For the most part, there exists a number of determining factors which are responsible for the rise and expression of Personal Space. Its functions too are equally diverse, but there seem to be common themes running through these functions as presented in the literature.

The most widely accepted postulate is that the concept of Personal Space is responsive to individual and situational differences, according to a variety of principles. A developmental pattern appears to occur throughout childhood, but it is recommended that research findings in this area be viewed with caution. Studies on developmental sequences are marked by methodological weaknesses and lack of a sufficiently supportive treatise on cognitive development. Distance preferences and Personal Spaces appear to develop early in life, from about three years of age up to around

twelve years, and from then seem to remain relatively stable over time and throughout adulthood (Evans & Howard 1973; Everts & Lepper 1975). Meisels & Guardo (1969) found that children tend to make use of more space as they grow older. However, "childhood" itself, as a term denoting a developmental period is problematic in that in many cases it has been used far too loosely to be of any real value. It spans a period of time during which developmental growth and progression is made in many other areas (e.g. physique, cognition, skills aquisition etc.) and thus needs to be broken down into more sensitive units in order to more fully appreciate the patterns of development inherent in spatial behaviour. Care needs to be taken lest the breadth of the term masks spatial variations over short time periods.

The functions of spatial behaviour are equally difficult to consider. The value of a functional as opposed to a theoretical approach to spatial behaviour is perhaps most meaningful given the relative poverty of research and theory about the nature of Personal Space. Evans & Howard (1973) advocate such an approach to proxemic studies -

> "a more thorough understanding of personal space can be achieved if we view it from a functional standpoint".
>
> (Evans & Howard 1973, p.340).

The proposal is to consider the function of space and then infer from this the major constructs of spatial behaviour.

A number of functions have been discussed in the literature. These can be summarized into two major groups,

(a) to buffer against real or perceived threats;

and (b) to facilitate communication, (Baron & Byrne 1977).

For Little, the function of Personal Space is clear. Personal Space defines -

"a region for certain types of interaction".

(Little 1965, p.237)

Sommer also intimates that Personal Space is an interaction related phenomenon.

Spatial Usage and Interaction

A spatial dimension to interaction was postulated early - it is an intuitively appealing hypothesis. Space was considered to be related to, and indeed generated by a person's perception of the meaning of an interpersonal interaction. It cannot be assumed, however, that the spatial dimension synthesizes and expresses every aspect of the interaction. Rather, it is a means by which the relationship between two or more partners (even though spatial behaviour is usually considered in a dyadic context), can be held at a level at which both are able and willing to participate in. Superficially, this may seem to be somewhat phenomenological[1] in flavour: however this statement makes no definitive claims as to whether or not this distance is learned (as being appropriate for that particular kind of relationship), evoked by some internal factor, or merely a function of the individual's current rational and conscious thoughts and feelings.

The aetiology of spatial behaviours is not well understood. They are not directly taught as such, but may well be a function of modelling

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1. "Phenomenology" refers to the humanistic philosophy that Man is a free conscious and rationally thinking being, ruled by his perceptions of himself and others. The current phenomenal reality as he sees it is crucial in the determination of behaviour rather than environmental stimuli or innate drives. See Chapter IV for a more detailed treatment.

or other learning procedures. They may be performed "unconsciously" and therefore not readily amenable to conscious transmission, but this is debatable given the efficacy of reinforcement and punishment principles upon behaviour. However, this has yet to be formally established, at least from an interperspective point of view.

An early theorist, Borgardus (1925; cited in Baines 1977), isolated two major parameters in the relationship of distance and motivation. One - the degree to which one desires or is inclined to become entangled or affiliated in some sort of interaction, and two - the need one experiences for such an encounter, be it as a goal in itself of a means by which other needs may be fulfilled. Moreno (1946) postulated a direct relationship between physical distance and the individual's feelings regarding the other partner. He attempted to portray feelings towards others in three dimensional space and hoped that this would correlate with one's actual spatial reaction to those others. The results were rather equivocal, but Moreno's work represents an early and insightful attempt to define more clearly the causal elements of spatial behaviours.

It is not intended that a firm statement be made on the basis of these parameters. The distances selected in any interpersonal encounter may be learned and/or culturally shared. The degree to which internal drives and social expectations affect this distance is unclear.

Hall (1963, 1966) has examined spatial behaviour in terms of spatial usage and distance. Instead of concentrating on the notion of Personal Space in terms of volume, he developed a four phase pattern of spatial usage in terms of distance, expressed in linear terms, (Hall 1966, p.110-120). These distances are:

(1)	INTIMATE:	0 m - ½ metres;	used for intimate contacts, physical sport, aggression etc.
(2)	PERSONAL:	½ m - 1.1 m;	daily contacts between friends and acquaintances.
(3)	SOCIAL:	1.1 m - 3.5 m;	impersonal and business-like contacts.
(4)	PUBLIC:	3.5 m and over;	formal contacts between individuals and the public.

Hall hypothesized that interaction is most enhanced when the appropriate distance for that interaction is adopted. In his earlier work, he implied that these distances were products of classical learning principles -

> "These cues "(talking of environmental spatial cues)", release responses already established in much the same way as Pavlov's bells started his dog's salivating".
>
> (Hall 1959, p.190).

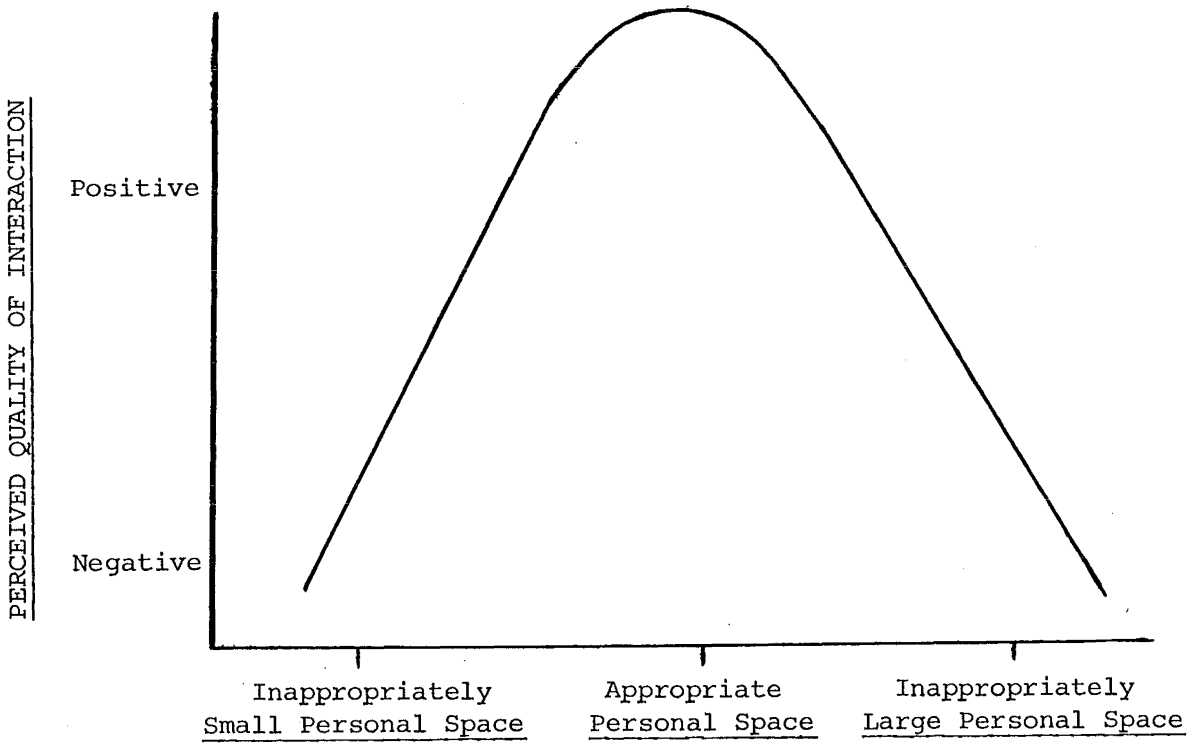
Later, however, he appeared to modify his thinking in his statement:

> "It should be noted ... that how people are feeling toward each other at the time is a decisive factor in the distance used".
>
> (Hall, 1969, p.114).

The reader will note the phenomenological flavour of this statement.

The thesis of Hall's work presents Personal Space as a function of the nature of an interaction between two people, not necessarily in terms of the <u>real</u> nature of the contact, but more precisely in terms of the individual's perception of the contact. Figure I pictorially illustrates this idea.

FIGURE I. Relationship Between Space and Perceived Quality of Interaction.



(from Baron & Byrne 1977; p.614).

Hall takes pains to emphasize the dynamic nature of this behaviour. Man's sense and perception of space and distance is not static and therefore a fixed linear interpretation is rather simplistic -

> "This perception is dynamic because it is related to action".
>
> (Hall 1969, p.115).

The notion in Psychology that for every effect there is a single and identifiable cause may, according to Hall, be both mistaken and outmoded. The dynamic and differentiated complexity of social interaction renders that notion redundant by virtue of its simplicity.

Investigations of spatial behaviours in group situations are instructive for the further understanding of the relationship between

space and interaction. Spatial position and adjustment predict the degree to which individuals participate in interaction. Parameters such as affiliation, dominance and leadership are implicated here. It is wise to note however, that little attention has been paid to the constructs of the spaces in which interaction is measured in studies of this type. It is reasonable to assume that such constructs may have some bearing on the expression of spatial preferences, (See Chapter III). Hence, results in this area are yet in need of further clarification and verification.

It may be incorrect to claim that spatial usage always follows certain prescribed population shared rules. One may adopt small spaces for a number of diametrically opposed reasons. They can be used to express affiliation, affection or a desire to be emotionally near to another, or conversely to express anger and hostility, probably by attempting to invade the space of another as a threatening gesture (Meisels & Dosey 1971). The actual interpretation of a spatial response then becomes a function of the context in which the relationship (and by virtue thereof, the perceived nature of the relationship) exists. To assert hard and fast rules about the directionality of such behaviour may, as a result, be both errant and erroneous. It can be argued that the difference in interpretation of this phenomenon is a function of one's own upbringing rather than a difference of fact.

Rules governing spatial behaviour are most likely intra-individually consistent, rather than inter-individually consistent. Interaction by definition involves reciprocity (both verbally and non-verbally). Goffman (1969) notes this in stating that participants together define an interaction. As the perception of one or other or both changes, so too

does the nature of the exchange itself. A dynamic analysis then, is well equipped to take cognizance of apparent changes in spatial orientation over time (Pederson & Shears 1973).

The impact of environmental settings on interaction should not be neglected. Environmental factors are primarily employed to define the context of an interaction (close physical proximity will be tolerated in a crowded bus, but not in an open street). Specific and fixed 'environmental sets' may result in a certain pattern of spatial responses being adopted, but these need not be necessarily consistent across individuals. One person is bound to interpret these sets differently from another. These sets might well be considered as social norms, to which all members tend to subscribe, but Leibman (1970) points out that the presence of certain norms in an individual's repertoire doesn't necessarily guarantee that he will behave accordingly. In behavioural terms, the Boomerang Effect might well occur, whereby an individual behaves in a way contrary to that which he is abjurred to do by some authority or perceived set of dictates.

In review then, this discussion supports the contention that Personal Space and spatial behaviour is an important and central mechanism in the enhancement of interpersonal interaction. On this point, there is a marked degree of consensus, ranging from the ethological through to the psychoanalytic view. Pederson & Shears (1973) and Patterson (1974) argue that spatial zones are maintained for the continued equilibrium between interacting partners. For the former writers, this is both a 'between people' and a 'between group' phenomenon. Knowles (1972) has demonstrated that dyadic pairs seem to exhibit a 'group' space, i.e. they tend to move together as a unit to avoid spatial intrusions. However, Baines (1977) argues that there is no such group centred function of Personal Space.

It is meaningless to talk of a group 'personal' space! It cannot be defined as the sum of the members' spaces, nor the mean 'personal space' of the individual members themselves. The idea is better considered in terms of 'social space' (Knowles 1972) and it is felt that the study of group dynamics would likely be more profitable in analysing this group centred behaviour than the study of Personal Space (although the two may well be regarded as analogous).

Horowitz et al (1964) developed a psychoanalytic approach to Personal Space. They described them as 'body buffer zones', and considered that they were universal and always existent. While body buffer zones weren't tied specifically to defence mechanisms, they were seen to be generally useful in the establishment and promotion of emotional well-being and personal security. Lyman & Scott (1967) take the view that 'body territory' or 'body space' (the latter effectively synonomous with Sommer's use of Personal Space) exists so that people may maintain their identity and indulge in various idiosyncratic practices and behaviours characteristic of them. This function of Personal Space is of no less importance than that of facilitating interaction, but will be considered no more here since an exhaustive analysis of the latter would in part take into account this function by definition.

4. COMPONENTS OF PERSONAL SPACE

The personal and idiosyncratic determinants of Personal Space are in a complex interrelationship with cultural patterns of spatial usage and phenomena. Many studies record marked cultural and social differences in the sizes and uses of personal space responses (Hall 1966; Watson & Graves 1966; Little 1968; Sommer 1968, 1969; Evans & Howard 1973). The extent to which comments made in the following discussion generalize from

the traditional 'white middle class U.S. citizen' paradigm on which they are based, to other cultural groups is hence a matter of debate. It is assumed that they generalize in principle from one culture to the next. There are a multitude of experiments reported in the literature outlining a large and amorphous number of variables responsible in the determination of spatial responses. To document every one would be tedious; major findings only will be cited. As the reader may now be aware, little in the area thus far has been unequivocable. This applies equally to the experimental work reported below.

Hall (1959) postulated a group of physiological variables which affect interpersonal distancing. Humans utilize the dimensions of depth perception, olfaction, heat radiation and frequency audition in their interactions. The effects of these variables on spatial usage is as yet not clearly demonstrated, but there is evidence to suggest that the violation of spatial zones does elicit various physiological reactions in the body. Not only does the individual react and adjust his . . . spatial orientation in response to perceptual cues, . he also reacts in terms of emotional arousal, as measured by Galvanic Skin Response (McBride et al 1965).

Sex variables play an important part in determining the size of Personal Spaces and Interaction Distance. It is known that females tend to exhibit smaller spaces than males (Aiello & Jones 1971; Pelligrini & Empey 1970; Evans & Howard 1973). The last mentioned writers found that male-female pairs had smaller spaces than female-female pairs, which in turn were smaller than those of male-male pairs. Knowles (1972) found that mixed sex pairs exhibited stronger group cohesion than did single sex pairs, especially male-male pairs. This study found that mixed sex pairs were more likely to protect shared spatial integrity than were single

sex pairs in response to an invasion by a third party. Friendship and physical attraction seem to be the operative factors here: friendly pairs exhibit smaller space than nonfriendly pairs (Evans & Howard 1973), and couples attracted to each other exhibited smaller personal spaces than others (Heshka & Nelson 1972). The inference from these findings is that one regulates distance according to the nature and level of interaction and stimulation.

Considering that it has been demonstrated that a primary function of Personal Space is the enhancement of interaction, one would expect the perceived nature of an interaction to affect the size of a personal space response. Rosenfeld (1965) found this to be so. Anecdotal evidence is supplied by Sommer (1969) to support this view. Sommer (1965), and Narum, Russo & Sommer (1967) demonstrated that body orientation was a determinative factor in the size of Personal Space.

Body language, of which body orientation is but one construct, has been shown to be efficacious in the determination of spatial responses. It appears that a number of devices are employed to regulate space and distance. Argyle & Dean (1965) and Cook (1970) have developed this notion primarily in the context of 'eye contact'. Cook suggests that spatial responses are a function of eye contact, affiliation, sex and personality variables rather than a construct in itself. It is debatable however, that spatial behaviour is simply nothing more than a subset of body language. Eye contact may temporally precede a spatial response, but it does not of itself create the need for such a response. An analogy may be drawn here with regard to affection. Eye contact is used to express a level of affection for a person, but does not determine the degree of affection. Rather, the emotional content precedes the body language.

The same principle applies to spatial responses. Eye contact itself is little more than a means by which spaces are created and maintained.

There have been contradictory findings in the search for related personality variables. Some studies have demonstrated clear personality effects: violent people tend to use more space than do non-violent people (Kinzel 1970). Individuals with positive self regard manifest smaller spaces than those with low self esteem and a negative self concept (Stratton Tikeppe & Flick 1973).

> "When psychiatric patients were asked to approach an experimenter, ... greater frontal and left sided approaches were found to be related to withdrawn and depressed behavioural states; Stratton & Horowitz 1972".
>
> (Stratton Tikeppe & Flick 1973, p.424).

Horowitz, Duff & Stratton (1964) and Sommer (1959) found that schizophrenics require greater spaces than normals. Other researchers however, are less convinced. Evans & Howard concluded that -

> "the relationship between personal space and personality abnormalities is unclear".
>
> (Evans & Howard 1973, p.334).

Dosey & Meisels (1969) produced results that demonstrated a lack of relationship between spatial behaviour and personality variables. Studies with children have shown that emotionally disturbed individuals tend to display responses at variance with normal children (Weinstein 1965, 1967; Fisher 1967). Some researchers have found conflicting results (Hobbs 1966; Tolor 1968) in the same field. More work is needed on this topic to clarify these research findings, or at least to identify the parameters responsible for the variations in behaviour. Studies on this

topic have been rather half hearted in that they have found some data of interest, but have not made the logical progression of testing the durability of these abnormalities, or attempting to remedy them. An essential problem with these studies, though, is the looseness associated with personality description and the vagueness of diagnostic terminology. The idea is reasonably appealing though. However, just as no single trait or characteristic determines the totality of one's personality, but rather an aglomeration of them, so too may spaces be determined by clusters of variables exerting differing influences rather than one personality construct per se.

5. MEASUREMENT TECHNIQUES

The most common techniques employed in research on spatial behaviour fall into three main groups.

(1) Laboratory methods: the usual method in this type is to ask subjects to approach each other or a fixed standard. Distraction tasks such as requiring subjects to engage in conversation etc. are used to disguise the important spatial variables. The distance that is observed between the subjects is interpreted as a measure of space.

(2) Simulation methods: subjects are required to manipulate dolls or silhouettes in space (the latter in two dimensional space), based on the assumption that this will elicit and reflect the subject's own personal spatial schema.

(3) Field Observations: simple field observations of dyadic interaction taken under varying conditions constitutes the third major research method. Of the three groups of techniques, this most probably yields data least confounded by methodological artefact and most reflective of true behaviour.

A direct comparison of results from each of the three approaches is at best dubious. Poor correlations have been observed between the various techniques (Dosey & Meisels 1969), which suggests either that spatial responses are not consistent and that their variables are polymorphous, or that there are a number of ways in which they can be manifest, or that the measures themselves are particularly crude, clumsy and insensitive.

Attempts to generate objective measures of spatial behaviour have resulted in the development of two major tests. The first, developed by Kuethe (1962, 1964) makes use of the systematic placements of human and non-human figures on a flat plane. Silhouette figures on cardboard or felt (hence the name; Kuethe Felt Figure Test) are manipulated by subjects on this plane. Patterned organizations of responses were observed when the test was used. This test, and the various modifications of it reported in the literature utilize two dimensional representations on two dimensional fields.

The second, developed in 1973 by Duke and Nowicki, and called the Comfortable Interpersonal Distance Scale, consists of eight radii emanating from a common point or a flat two dimensional plane. This pencil and paper test requires the subject to imagine himself at the centre of the radii and then to indicate on each of these radii (measured in mm) the point at which he would tolerate another person's presence. Test retest reliability for this device is quite impressive.

Other researchers have chosen to employ behavioural and physiological measures, but these lend themselves to such research in a rather limited way since the complexities of Psychophysiology itself are not fully understood and the results are often confounded by other variables.

A pure measure of physiological response to spatial invasion alone is simply impossible to isolate.

The dynamic nature of interpersonal interaction makes a static interpretation of spatial responses difficult to formulate. While this difficulty does not necessarily render any such interpretation invalid, it does lead one to question the efficacy of many of the test designs in current use. Laboratory methods suffer from their artificiality. They are in essence contrived situations, and therefore the interaction generated is effectively stagnant, essentially a non event. Tests of this nature are at best likely to elicit the behaviour of concern only partially, or not at all.

Simulation methods rely heavily on the psychological mechanism of Projection. While theory to some extent supports this mechanism, means to further validate it should constantly be searched for, both in practice and theory. To reiterate, almost all of these kinds of tests, when standardized, utilize two dimensional fields and figures. Even the Comfortable Interpersonal Distance Scale employs a flat plane (in plan as opposed to elevation). There is a need to develop a more cogent test incorporating a three dimensional array, yet similar enough to others to facilitate comparative analyses between measures.

Field observations are clearly prohibitive in many cases since environmental factors cannot be readily controlled or accounted for. The complexities of space and the multiplicity of influencial variables makes standardization across observations a near impossible task.

6. SUMMARY

The concept of Personal Space is best analysed in the framework provided by the study of Proxemics, which in turn exists as a subset of the broader field of Environmental Psychology. The study is multi-disciplinary, partly as a result of its historical evolution, and partly as a function of the wide appeal it has for a number of differing schools of thought. Each of these schools has to some extent a significant contribution to make toward the deeper understanding of the subject matter, and thus any advance in the knowledge of spatial behaviour will be determined in part by the continued work of these disciplines. This review has minimized the role of cognition in spatial behaviour since the relationship between the two is as yet not fully understood. There are simply too many fragmented variables unaccounted for in the scheme of things. Nevertheless, some conclusions can be drawn.

Personal Space is not synonomous with nor is it strictly a component of human territoriality. An operational distinction at least can be made in that the frame of reference is different for each. The term Personal Space is more closely allied to the concept of 'Individual Distance' in sub-human species, and is characterized primarily by an intrinsic notion of individuality.

Further, it is concluded that the exact nature of Personal Space remains somewhat of a mystery albeit functional approaches may prove to be more efficacious than other methods, in answering questions of spatial behaviour.

Interaction is most commonly regarded as the major variable associated with spatial behaviour. Its purposes and value seem to reside in the enhancement and maintenance of varying degrees of interpersonal inter-

action. It acts as a filter or buffer against unwanted or overly intense stimulation and thus serves a valuable protective function.

Until now, a virtual universality and fixity in spatial usage has been assumed. (By fixity, one refers to the stability or consistency of a behaviour in terms of its dimension, strength and/or magnitude. Behaviours can be regarded as fluid and transitional in nature, or consistent, stable and predictable. The degree to which a response occurs in a given set of circumstances at a similar magnitude or intensity would give some measure of its fixity). This may not necessarily be the case however. The consistency or fluidity of spatial behaviours under certain conditions has yet to be demonstrated conclusively. The substantial individualistic component in human spacing has been pointed out. Further work is needed to assess the transcience of this component. The opaqueness of the available theoretical discourses on the subject leaves room to suggest that spaces are engineered by the individual (either consciously or otherwise), as a function of personal preference. The assumption that spatial responses are fixed to any degree should be rejected until there is sufficient evidence to suggest otherwise. Nothing should be assumed further than that the propensity for and practice of spatial behaviour exists; pro gratis in the first instance, and by choice in the second. Horowitz et al (1964) argues that spaces are universal and probably subconscious. Little (1965, p.238) argued that they appear to develop "completely outside (our) awareness". Such a claim is only partially accepted. On a subjective level, people often seem to be aware that others are too close or too distant, and seem quite able to express these feelings in spatial terms.

Personal Space should not be seen solely as a physical structure, but rather as the external expression of one's internal interpersonal representations, conceptions and desires with regard to interpersonal interaction. The reader may note the cognitive flavour of this conclusion. For Evans & Howard, Personal Space is -

> "a mediating cognitive construct which allows the human organism to operate".
>
> (Evans & Howard 1973; p.340).

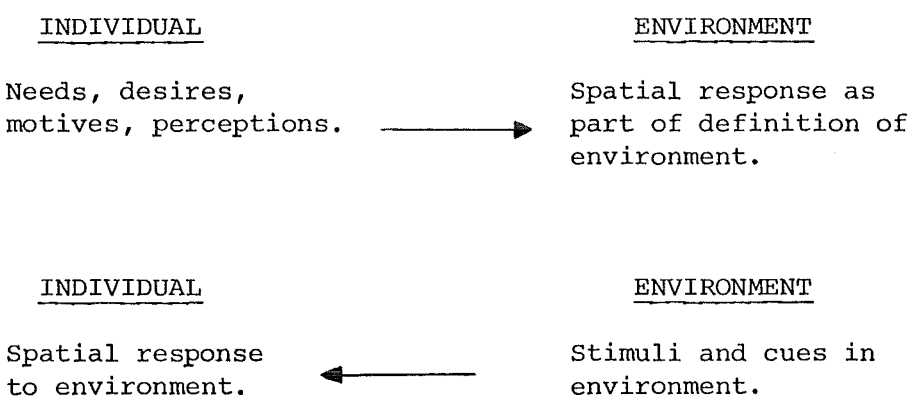
Studies conducted on children have addressed themselves to the cognitive development of space behaviour, but as yet, it remains in the realm of theory, and so will be considered no further than has hiterto been stated. Upon discussing the subject with a friend, the researcher was amused by the exclamation - "what about bad breath!!" There may well be an argument for considering elements such as this. Indeed, while offered light-heartedly, insights of this nature may well result in more fruitful conclusions to the study of spatial behaviour than those which are adopted at present.

CHAPTER III

THE EDUCATIONAL ENVIRONMENT AND SPACE: A HYPOTHESIS CONCERNING OPEN PLAN EDUCATION AND SPATIAL BEHAVIOUR

Spatial behaviour by definition involves organismic action in three dimensional space. The direction of effect or influence for such behaviour is a controversial issue. Current notions of the relationships between interpersonal interaction and spatial behaviour imply that individual factors determine one's pattern of spatial responding. Conversely however, it can be argued that a defined external environment will itself give rise to a particular pattern of spatial behaviour. Figure II demonstrates the directions of effect of these two models.

FIGURE II. Models of the Individual/Environment Relationship



Clearly, behaviour can be seen as a function of the environment; i.e. it is to some extent determined by its environmental context. However, it is equally a truism that humans purposively act upon their environment, to modify it in some way in the fulfilment of needs. Both

models then, demonstrate some aspect of the individual/environment interaction.

In the light of this interaction, it would seem reasonable to investigate the kinds of spatial behaviours associated with particular spatial environments. Given the current debate over the Open Plan versus Traditional Plan education movement, there exists an interesting opportunity to carry out such research within the educational setting.

Will a specific kind of environment and/or educational setting give rise to or reflect a specific spatial response? It is to this question that this chapter is addressed. The issue is complex however, since it deals not only with a physical environment, but also with an educational philosophy. To assess accurately the effects of Open Plan education on spatial behaviour, one needs to be able to determine the relative strengths of the influences exerted by Open Plan education as a philosophy as opposed to that as an architectural expression. It is beyond the scope of this chapter to make such an assessment, and indeed even to assess the relative merits of open plan education in general as an alternative to more traditional methods and practices of education. The task at hand remains simply to compare the patterns of spatial behaviour in terms of the concept of Personal Space (defined in Chapter II) between school children under the influence of these opposing eductional paradigms.

The issue is not inconsequential given that the Open Plan movement has blossomed rapidly in New Zealand since 1970, and now affects more than 200 primary schools and over 16,000 primary school children in one way or another. In the last decade, the majority of new classrooms in schools in the Canterbury area has adopted the open plan, the main features of which are a lack of fixed internal walls, a sharing of available space

and resources (both physical and social), and an emphasis on the free utilization of these resources and space.

Traditional plan schools, in terms of classroom design, make use of a structured environment. Each child has his own desk in a certain area of the class, and resources and time are allocated in an ordered, structured and programmed manner. Specific spatial areas are set aside for age and class groups, which have definable limits, rather like a form of territory.

Open Education on the other hand, focuses on the full utilization of the broader social and physical environment in the process of learning. Emphasis is laid on the flexible use of time, space and materials, geared to suit both group and individual needs. No specific classroom area as such exists in the same way as it does in a traditional plan school. It must be stressed again at this point, however, that there is and must remain a distinction between open plan education as an approach to learning and open plan as an architectural design. A major motivating philosophy behind the modification in design lies in the hope that a change at this level will encourage and foster a change at a higher educative level along the principles outlined above.

Given these two educational paradigms then, one might expect that the spatial responses of children from these types of schools will reflect the approach of that school. In a paper by Palmer (1977), ten advantages of open plan education over traditional practices are listed. Two of them may be summarized as follows -

(a) the enhancement of social interaction between pupils and staff;

and (b) the increased freedom of movement and use of space afforded by less structured surroundings.

One would predict on the basis of these parameters that children from these schools would exhibit en masse, a much broader range of responses than those from a traditional school. Given the structured environment of the latter, one might predict that the range of behavioural responses would be smaller for these children, with a greater tendency to a grouped or common spatial pattern. In terms of Personal Space, one could argue that the children from traditional plan schools would have spaces of a similar or common size in contrast to the varied sizes predicted for open plan pupils. (Indeed, as a logical extension of this hypothesis, one could hypothesize that the mean size of Personal Spaces among traditional plan pupils is negatively correlated with the population density of the classroom: a topic for future research?).

The hypothesis was tested under the auspices of an experiment investigating another aspect of spatial behaviour among primary school children. For the major experiment, a group of children was needed to function as a control condition, from which measures of Personal Space were taken. This Control Group (N = 56) was generated from two Traditional Plan schools and one Open Plan school. Of this total sample, 34 were from the former two schools. Measures of spatial orientation were taken on the S.O.T. as described in the Procedure section of Chapter V.

Within this overall control condition then, two groups of children were measured and comparisons made. The results can be seen in Chapter VI and are commented upon in the Discussion section of Chapter VII.

CHAPTER IV

PLAY AND PLAY THERAPY

'Well, well, go and play till the light fades away
And then go home to bed'.
The little ones leaped and shouted and laugh'd
And all the hills echoed.

W. Blake, from "Songs of Innocence",
'Nurse's Song'.

1. PLAY

The diverse range of literature that exists on Play and its concomitants reflects the changing philosophies about the nature and purposes of play that have developed over the years. A large body of research has been generated on play as a pervasive behavioural set since the turn of the present century, although theorizing about play has continued, albeit sporadically, since early times. Indeed, it is the wont of psychologists to establish the origins of their endeavours in antiquity by attributing important thoughts to such as Plato and Aristotle, and students of play have equally been inclined to do this.

Play, its incidence and influence throughout history on human culture has been studied from a number of perspectives. It has been seen as a mode of self expression, a means of communication, a vehicle for learning and simply as a source of sheer amusement. Explanations of the phenomenon are equally diverse, ranging from the instinctual and ethological through to the social and phenomenal; from the cognitive to the learning, and so on. It is not the purpose of this section critically to review the wealth of information, since the task would be monumental and is beyond the scope of work of this nature. Instead this chapter will devote itself primarily to the subject of Play Therapy, a technique based on the hypothesis that play is the child's natural medium of expression and is the means by which he . . . learns to manipulate and control the environment.

Play itself is extremely difficult to define, since it is more than just a set of behaviours, or a kind of behavioural pattern. No satisfactory definition of universal acceptance has thus far been established. Play is usually regarded as activity that is pleasant and voluntary;

behaviour adopted by choice; free and without constraint. Ellis (1973) offers a range of definitions for consideration.

(i) Play is activity which is itself free, aimless, amusing or diverting.

(ii) Play is activities not consciously performed for the sake of any result beyond themselves.

(iii) Play is a mode of behaviour involving pleasurable activity of any kind not undertaken for the sake of reward beyond itself.

There is a notable looseness and imprecision in these definitions, however, since they fail to take cognizance of the distinction between 'play' as a philosophy or approach to living, and 'play' as physical organismic action. Play is not only a behavioural pattern, it is a point of view; play is "not work". To a large extent, what is playful for a person is essentially anything he considers to be playful, regardless of what it is, or whether or not it has rewards beyond itself, or even whether or not it is free and unrestricted. Further, the word 'play' itself is often coloured by the layman's perception of children playing with toy cars, trucks and dolls, or frolicking in an adventure playground, which renders an objective definition problematic. What of adult play! Are the activities of painting, sculpting, going to the movies, playing football, making love etc. usually associated with adults rightly called 'play'? Many of these behaviours are motivated solely by intrinsic reward not dependent upon other variables, and are usually voluntary, yet exactly the same behaviours can at other times be motivated by highly differentiated future oriented goals, e.g. making a living, writing for a critic's magazine or planning for a family.

Clearly, there are a number of problems associated with an adequate definition and conception of what is meant by play. Perhaps play is best

described in terms of adverb rather than noun - play is 'doing' rather than 'what is being done'. In this context, play can be seen as something more than just a set of behaviours. Axline (1947) argues that no theory is adequate to explain this 'doing' since its motivations appear to be highly polymorphous. Play has been linked to the development of cognitive, social and linguistic skills. The behavioural perspective argues that play is best explained in terms of imitation and modelling, and the practice and rehearsal of learned behaviours. Play is observed to increase in frequency and variation among animals higher on the evolutionary scale, and thus is assumed to be integrally related to the learning process and to physiological and psychological development. In terms of instinct and drive theory, play has been considered as a function of the exploratory drive performed in the gratification of this drive. Darwin chose to consider play in terms of Recapitulation, the process in which Man retraces or 'recaps' his evolutionary path from tree dweller to city builder. The fond desire of children to climb trees, play in huts and use sticks and stones in their activities is regarded as evidence for this point of view.

Whatever the motivation however, these approaches clearly relate play to the processes of growth, development and maturation. Play Therapy is regarded as an opportunity to experience growth under the most favourable conditions (Axline 1947). Non directive Play Therapy is based on the assumption that the individual is a growing, developing 'actualizing' organism by nature, and that he has within himself an ability and capacity to solve problems and direct his growth and behaviour. Before proceeding further with a discussion of Play Therapy, it may be instructive to consider briefly the theory of personality structure within which the technique is considered to have its roots.

2. THE PHENOMENOLOGICAL VIEW OF MAN

With the evolution of Psychology, many paradigms for the analysis of behaviour have come and gone, some with more durability than others. Theories of personality, for example, have included conceptualizations of soul or spirit, psychic structures such as the Id, Ego and Super Ego, Stimulus-Response chains and the humanistic 'third force' as described by Maslow, Kelly and Rogers. Behaviourism too has had its view to offer the student of Personality, arguing that the term is one of convenience rather than of substance.

Each approach has had its disciples and critics, and has been subjected to numerous philosophical and experimental treatments. The Phenomenological approach, pioneered by such writers as Goldstein, Rogers, Kelly, Maslow etc., is one such approach. This work will focus on Phenomenology as developed by Carl R. Rogers, essentially because it offers something unique in its formulation - that Man is the master of his own destiny, the author of his own behaviour; free, conscious and rational.

The Rogerian Approach.

Rogers' framework contrasts sharply with the dynamics of psychoanalytic theory and the learning theory paradigm of the behaviourist. Instead, Rogers chooses to study the phenomenal reality of the individual - life and living as perceived by him. Rogers argues that the human organism comes equipped at birth with one basic motivating force. In his words;

> "It is the urge which is evident in all organic and human life - to expand, become autonomous, develop, mature - the tendency to express and activate all the capacities of the organism,

> to the extent that such activation enhances
> the organism of the self".
>
> (Rogers 1967, p.35).

Rogers postulates that this actualizing tendency is the only motivation for the organism, it is not 'just another motive'. This tendency is innate, strongly biological at first, but it assumes a marked psychological flavour with time. Further, Rogers sees the organism as an organized functioning whole, its purpose to actualize the self. Human beings are conscious, and as such are ruled by the perceptions they hold of themselves and their experiencial world. Thus one's own present thoughts, feelings and emotions are of greatest importance in the dynamics of personality rather than the effects of early experiences, the despotism of psychic forces, or even the dictates of environmental stimuli.

The frame of reference for this self development is one's 'experiencial' or 'phenomenological field'. Rogers defines this as -

> "all that is going on within the envelope of
> the organism at any given moment, which is
> potentially available to awareness".
>
> (Rogers 1959, p.197).

The 'self' (Rogers never actually defines the personality as such, but rather chooses to talk of the 'self' or 'self concept'), develops as part of this experiencial field becomes differentiated off and defined in terms of 'I' or 'Me'. The self is fluid, but a consistent gestalt; mobile but nevertheless contained, aware and experiencing.

The phenomenological paradigm views behaviour - "basically as the
> goal directed attempt of the organism to satisfy

its needs as experienced, in the field as perceived".

(Rogers 1959, p.197).

The organism has control over his behaviour to the extent that he is able to behave in a way that feels best, that feels free; to move forward or backward by choice, never being compelled to move on any one path.

Theory and Therapy.

Rogers has often been criticized for not being theoretically explicit. To a large degree, this is justified. He has never really laid down a formal statement of his personality theory. It has arisen primarily from his work in the clinic, and as a result, there is a close intermesh between theory and therapy. The tenets of Client Centred Therapy (C.C.T.) are in effect the statements of his theory.

Rogers argues that the principle determinant of behaviour is the way in which the individual sees and perceives himself and the environment. How then, does he account for 'sick' or disturbed behaviour? Is it the result of choice? To cope with this behaviour, Rogers developed his famous non-directive or client centred therapy. He argues that one needs to understand the person's own frame of reference in order to understand the disturbed behaviour. He implicitly recognises that personality can change from good to bad and vice versa. Gendlin (1964) notes that the phenomenological framework is well suited to account for change in that the organism is seen to be 'experiencing', with emphasis on the 'ing'. Experiencing is a process which can course along different paths. C.C.T. makes full use of process related concepts, contrasting with the static content/structure frameworks of other approaches.

One of the fundamental notions in Rogerian theory is 'Incongruence'. This refers to a discrepancy between the actual experience of an organism and the self picture of the individual insofar as it represents that experience. (Conversely, 'congruence' is the state whereby the individual openly experiences, acknowledges and accepts all the feelings and attitudes (i.e. all the phenomena) that are of the moment flowing in him, and are seen in accordance with the world around). The aim of C.C.T. then, is to resolve this incongruence. The essence of this approach suggests that the individual has the ability and indeed the capacity and responsibility to change his personality:

> "the individual has within himself vast resources for self understanding, for altering his self concept, his attitudes and his self directed behaviour - and that these resources can be tapped if only a definable climate of facilitative psychological attitudes can be provided".
>
> (Rogers 1959, p.221).

What is meant by change, personality change? Rogers again:-

> "change in the personality structure of the individual at both deeper and surface levels in a direction which clinicians would agree means greater integration, less internal conflict, more energy utilizable for effective living; change in behaviour away from behaviours generally regarded as immature and towards behaviours regarded as mature".
>
> (Rogers 1951; p.491).

Rogers (1957) has described the six conditions he considers necessary for such constructive change:

(1) two persons are in psychological contact.

(2) the first, the client (C.) is in a state of incongruence.

(3) the second, the therapist (T.), is congruent and integrated in the relationship.

(4) T. experiences unconditional positive regard for C.

(5) T. experiences an emphatic understanding of C's internal frame of reference, and endeavours to communicate the same to C.

(6) the communication above-mentioned is to a minimal degree achieved.

Given these conditions, Rogers argues, change will occur; nothing else is needed. In a nutshell, the process involves the client listening (to himself), experiencing, being accepted (by T.), acknowledging and accepting (himself), and finally becoming.

The efficacy of the Rogerian approach has been a subject or contention over the years, especially given the quite mystical essence of his philosophy. A number of experimental assessments of C.C.T. have been attempted to verify the procedure as a useful clinical approach, as well as a meaningful psychological theory. Two excellent and typical examples of this are the studies by Butler and Haigh (1954) and Rudikoff (1954). Schlien & Zimring (1966) provide a good review of such research methods and directions concerning C.C.T.

3. PLAY THERAPY

Theoretically, Play Therapy is an opportunity to experience growth under maximally optimal conditions; through play, the child is able to act out fantasies, fears, frustrations, tensions, joys and sorrows in an environ-

ment that neither censures nor censors such expression. These feelings can be brought to the surface and faced head on. The child is able to learn about them by giving them expression, and by manipulating them in a nonhostile environment, deal with them in a way that seems best; that is most satisfying. The notion of Play Therapy has, in this way, two basic roots, one in psychoanalytic theory and the other in Phenomenology. The principle of Catharsis is presumed to be the operative variable from the former point of view. Aggressive energy, free floating anxiety, and the frustration that is associated with the thwarting of the pleasure drive that builds up 'hydrolically' is drained off in the play sessions. The cathartic effect is reinforced by the resolution of conflicts that can occur during play, which have dammed up libidinal energy in the past.

The phenomenal view, on the other hand, considers that the tendency to actualize and grow or move provides the energy for play, and the therapeutic situation affords the opportunity for this growth potential to stretch and flourish under free rein. Play is seen as the child's primary means of expression - it is more than just entertainment: it is 'children's work'.

Play Therapy itself can be directive or non directive (the latter after Rogers). The former makes use of a rather more structured situation than the latter, whereby the therapist actively assumes responsibility for the direction of play and activity, and encourages the child to bring up, talk about and deal with problems. Behavioural techniques are often used to reinforce and punish desired and undesired behaviours.

Non directive therapy on the other hand, places the onus of responsibility on the child to direct his behaviour, both in direction and intensity. Non directive therapy grants the individual leave to be himself

and accepts that self 'as is, where is' without qualification. The fundamental aim here is to foster the ability and capacity of the child to focus upon himself for direction and decision making rather than submitting to the dictates of others.

Strictly speaking, the term 'non directive' is somewhat misleading since it implies that a session of such therapy is aimless or directionless. While this at times may be the case, it is more often than not incorrect. The child chooses direction, often in a very real way. By testing the environment and making choices, the individual behaves in a way that best suits his needs. In this sense then, the term 'self directive' would seem to be more applicable. This distinction may be little more than a quibble over semantics, but it is worth pointing out if it increases one's awareness of the real nature of nondirective, or self directive therapy and counselling.

> "It is a unique experience for a child suddenly to find adult suggestions, mandates, rebukes, restraints, criticisms, disapprovals, support, intrusions gone. They are all replaced by complete permissiveness to be himself".
>
> (Axline 1947, p.16).

Non directive play therapy is not synonomous with the ethic behind 'the permissive society'. It is a therapeutic process designed to understand the state of the person at the moment and to permit the

> "never ceasing drive toward complete self realization".
>
> (Axline 1947, p.20).

By means of a warm friendly trusting relationship, it fosters security and relaxation, and encourages the children to learn about the elements in their life spaces which hurt and frustrate them, or conversely, bring them joy and happiness. There lies an implicit notion in this view that Man is not evil and bad by nature, and thus the constant striving for growth and expression equates with a striving for health, improvement and betterment, both physically, socially and emotionally. It is an ongoing process, free of the rather fixated attitudes underlying the philosophy of the permissive society. The tendency for growth is released from the distorting and buckling pressures of living, and as this unfolding occurs, the individual more closely reflects the true positive nature of Man.

4. TECHNIQUES IN PLAY THERAPY

'Play Therapy' is fundamentally a global term which collectivizes a philosophy of Man, a kind of human relationship and a set of interpersonal social practices together under the auspices of a therapeutic contact. It is not a specific or formalized concept or technique. It is at once an existential, cognitive and behavioural affair without being any one in particular. It is essentially a gestalt which exhibits the central components of each of these philosophies in an undefined yet subtlely effective way. The child is empowered to allow all current thoughts and aspirations expression. Encouraged by the freedom of the situation, he is able to evaluate and analyse them in his own way. A pattern of behaviour is allowed to develop which acts as a response of best fit to the environment. The room and the therapist's presence act as discriminative stimuli for security and relaxation. The major difference between this and more formalized behaviour therapies is that the child is the behaviour modifier rather than the therapist.

Based on the principles of non directive counselling, Play Therapy seeks to allow the child free expression. A set of initial instructions are given in the first session to this effect, which point out that the child is free to choose to do as he likes. No set programme is used, no behavioural technique adopted, nor any formalized procedure relied upon. For further reading on the issue, the reader is referred to Axline (1947; 1973).

The most common response by the therapist is to reflect back the attitudes and feelings behind the content of the child's behaviour, in a way that neither rewards nor punishes them, but at the same time recognises them as important to the child. Again, the reader is referred to the competent hands of Axline for an illustrated discussion of the technique in detail. The techniques of non directive Rogerian client centred counselling are outlined in Rogers (1951).

5. THE THREE DIMENSIONS OF PLAY THERAPY

The Room and Materials

The equipment used in Play Therapy is little different from that found in any home. Toys, games, puzzles; anything that children like to play with. Water, clay and sand are invaluable items in that they are infinitely modifiable and fluid. They can be bombs, rain, snow, for example, and can be used richly in creative and symbolic play. Toys of amusement and challenge are essentially the requirements of Play Therapy. Appendix I lists the toys and materials used in the therapy sessions for this research. Somerset (1976) provides a detailed, yet refreshingly casual survey of materials that may be used. Axline argues that they needn't be sophisticated, nor excessively numerous. The efficacy of therapy is not dependent upon the quality and quantity of the toys,

although it is pertinent to note that a good selection is important for maximum effectiveness. A special room regularly set aside is obviously desirable, but again, this is not an essential pre-requisite since the technique is extremely rigorous, and may be adapted to suit almost any set of conditions. Consistency in terms of time and place is important however, if feelings of security and relaxation are to be successfully promoted. Familiar objects in a familiar room will tend to encourage the development of such feelings. The therapist should take note of the circumstances which most favourably suit the individual child, and attempt to provide these as often as is possible. Axline points out that therapy can be conducted in specially designed rooms or in the backs of classrooms, and that equipment can be transported in a suitcase. Such situations demonstrate the adaptability of the Play Therapy procedure.

The Therapist

While age, sex and physical appearance do not seem important operative variables in the success of therapy, personal qualifications are seen to be of crucial value. Based more on a philosophy of human relations than on a code of clinical practice, the therapist's qualifications should consist essentially of an ability to understand children and a desire to be sincerely committed to the pursuit of their ultimate good. The therapist must be able to respect, tolerate and accept the child and to be patient enough to allow him to do and be as he chooses. A successful therapist must be alert and aware of the needs, feelings and attitudes of the child and be able to accept them while refraining from imposing his own belief structure upon the child. The therapist's role is neither one of supervision or parenting: it is one of empathy and understanding. Therapy sessions are not crutches, and so intense 'mothering' and protection are not the purpose, nor should they be the

result of the therapeutic relationship. The therapist's role is active, not passive, but secondary to the child's desires in that he follows rather than leads the child. Some therapists find it useful and beneficial to take notes during the sessions; others find it distracting and unnecessary, and prefer to rely on tape or video recordings for any necessary records. Whatever the stance adopted, successful therapy starts and ends with a good therapist.

The Child

The child is the most important variable in any therapeutic adventure. He can be the aggressive child, the withdrawn child; the shy child, the hyperactive child; the child who suffers from handicaps of emotion or development in whatever way that results in difficulties for himself or those around him. These handicaps can be assessed either professionally or subjectively, and children may be referred for therapy on the basis of psychological diagnosis or parental concern. In general terms, the child who suffers in one way or another is a potential candidate for therapy. Most commonly, it is the emotionally disturbed child who is referred for Play Therapy (the excessively opaque usage of this term leaves room for liberal interpretation), but children suffering from problems of learning, physical handicaps, speech impediments and a multitude of other behavioural problems have been treated successfully by Play Therapy. Such attention has enabled children suffering in these ways to explore and learn about their feelings, to release and express them, and in doing so, develop toward fuller psychological and emotional growth and social maturity.

6. EMOTIONAL PROBLEMS IN CHILDHOOD

Emotional disturbance is found in both sexes, but a greater prevalence of disorders (antisocial, psychotic, neurotic, adjustment reactions, gender identity disorders and other learning disorders) exists in males in early childhood (Eme 1979). During adolescence, this trend becomes reversed. Environmental factors are most commonly regarded as instrumental, especially with regard to mild disorders. In cases of severe disturbance however, the full blame can less easily be attributed to the environment alone. Here, genetic and organic factors may play a determinative part, albeit exclusive ascription to one cause over another is likely to result in more confusions than clarifications.

Some infants and children appear to be far more susceptible and reactive to environmental stimulation and fluctuation than others. This may reflect the strength of innate dispositions of temperament, but it is stressed again that such predispositions should best be regarded as modifiables rather than fixities. This differentiated reactivity has been responsible for a large proportion of the problems encountered in the diagnosis, assessment and treatment of childhood disorders. Mild reactive disturbances are quite common in pre-school and primary school years, but by adolescence, more than half of the children suffering from such problems have improved to some degree or another. Attempts at identifying "primary reactive patterns" which have long term predictive validity have thus been somewhat thwarted. As Clarke (1978) points out,

> "The major picture ... is of inconsistency of characteristics; the vast majority of those who had childhood disorders either got better or worse, they did not stay the same".
>
> (Clarke 1978; p.254).

Most disturbed children do not grow up to be neurotic adults. For over 50% of such cases, the prognosis is good.

Anxiety reactions and childhood fears accounted for a large proportion of the mild and moderate disorders. The former is distinct from the latter in that it is more abstract and free floating. Childhood fears, on the other hand, are often tied to some objectively discernable situation, although the anxiety that stems from parental intolerance of these fears serves to build up and reinforce the free floating anxiety which debilitates the child in a more general sense. Rational explanations for these fears usually do little to placate them since the child's intellectual and cognitive development often cannot grasp their real meaning. The alternative of forcing a child to remain in a darkened room, for example, may serve to reinforce the fears rather than to overcome them.

Hobbs (1966) reports on the establishment of 'Re education' schools and programmes for emotionally disturbed children. He argues that there seems to exist a pervasive assumption that it takes at least two years to give any substantial help to a disturbed child. He suggests that such children have "fewer degrees of freedom" than others, and therefore require time, tolerance and patience in order to make beneficial adjustments. It is a common occurrence that emotionally disturbed children are underachievers, and thus they tend to be slow starters. The process of therapy and remedy, according to Hobbs, should therefore be one of redressing the skills deficit by the aquisition of social competence. The aim of Re education programmes then, is to retrain children in social skills to foster an overall competence rather than concentrating on an all out assult on the deficit areas themselves.

Hobbs sees the role of adults and parents as particularly important in the aetiology of abnormal behaviour.

> "The disturbed child is conspicuously impaired in his ability to learn from adults. The mediation process is blocked or distorted by the child's experience based hypothesis that adults are deceptive, that they are an unpredictable source of hurt and help".
>
> (Hobbs 1966; p.1110).

He considers the mother-child relationship as crucial in the life space of the child.

SPATIAL HYPOTHESIS REITERATED

In the light of Hobbs' statement on the mother figure, Tolor (1968) hypothesized that:

> "In view of the importance of the maternal figure in pathologically organized families, it may be predicted that emotionally disturbed children would place human figures farther apart than pairings involving only male figures".
>
> (Tolor 1968; p.696).

While it is not the intent of this study to test this specific hypothesis, it does illustrate the kind of work being done on the relationship between emotional disturbance and psychological distance and spatial behaviour. As mentioned in Chapter II, this relationship has received some measure of empirical support (Weinstein 1965; Fisher 1967). Tolor's study revealed no significant results in testing the above hypothesis, although he did find that when using a replacement task (which required

subjects to replace figures set up on a screen after their presentation and removal), the mean error in replacement was significantly greater in the group of emotionally disturbed children. Tolor suggests that the reason for these discrepant results resides in the confounding effects of non standardized procedures employed in the research of the subject matter. He stresses the importance of, and makes a call for the standardization of methodology; a call enthusiastically re-echoed here.

CHAPTER V

METHODOLOGY

1. AIMS AND RATIONALE

The aims of this study are multipurposive. Primarily, the central thesis concerns itself with the fixity or consistency of one's adopted spatial response. In order to more fully understand the various kinds of relationships that spatial behaviours have with other variables (such as age, sex, personality type, culture etc), some indication of the fluidity of the behaviours is required. Are spatial responses fixed behaviour patterns at any development stage, or can they be easily modified?

It was decided to test this fixity in the following way. From a large group of children, measures of Personal Space would be taken, to which a series of experimental conditions would apply. Given that the literature indicates spatial usage at variance with the norm among children defined as 'emotionally disturbed' (Weinstein 1965; Hobbs 1966; Fisher 1967; Tolor 1968), one would expect that a group of children could be generated which did indeed exhibit Personal Spaces either much larger or much smaller than children not so defined. If such groups could be developed, they could be given therapeutic treatment and then compared with controls to assess the degree of movement, if any, in their spatial response.

Upon re-evaluation however, it became apparent that in order to test this hypothesis along the lines initially conceived of, an implicit reliance upon a certain hypothesis was necessary: that emotional disturbance was indeed related to abnormality in spatial orientation. Studies

have supported this hypothesis, but even so, there yet remains much work to be done on this topic, which would isolate the parameters and include the development of a satisfactory theoretical model which takes into account the complexities of the behaviour observed. As a result then, while this relationship is not of itself under scrutiny in the present study, and thus no formal hypothesis will be offered, it nevertheless remains an implicit testable assumption. The primary factory of concern is essentially the modifiability of Personal Space, rather than the link between emotional disturbance and abnormal spatial behaviour.

The reader will note however, that the design relies somewhat on the efficacy of the chosen modality of treatment a priori. It became evident then, that the design itself would test the potency of the non directive or self directive approach to child psychotherapy as a means of modifying children's behaviour. Play Therapy was adopted since it readily suited the researcher's resources, and indeed was of personal interest to the researcher. This aim is to be regarded however, as incidental to the primary concern.

As mentioned earlier, the aims of the study are many. After consultation with the Education Department, the researcher was requested to incorporate into the design a consideration of the relationship between spatial orientation and the 'Open Plan' design of school classrooms. The rationale for this resides in the controversial Open Plan v. Traditional Plan Design issue, and is outlined in Chapter III. The aim then, became to test the hypothesis that there would be some difference in the spatial orientation between groups of children from each of the two kinds of schools. The methodology for this flowed easily from, and indeed was integrally a part of the methodology for the primary concern.

A formal expression of the primary aim and hypothesis is as follows:

AIM: To test the hypothesis that a chosen spatial orientation as assessed by a distance measure of Personal Space is a consistent or fixed behaviour pattern.

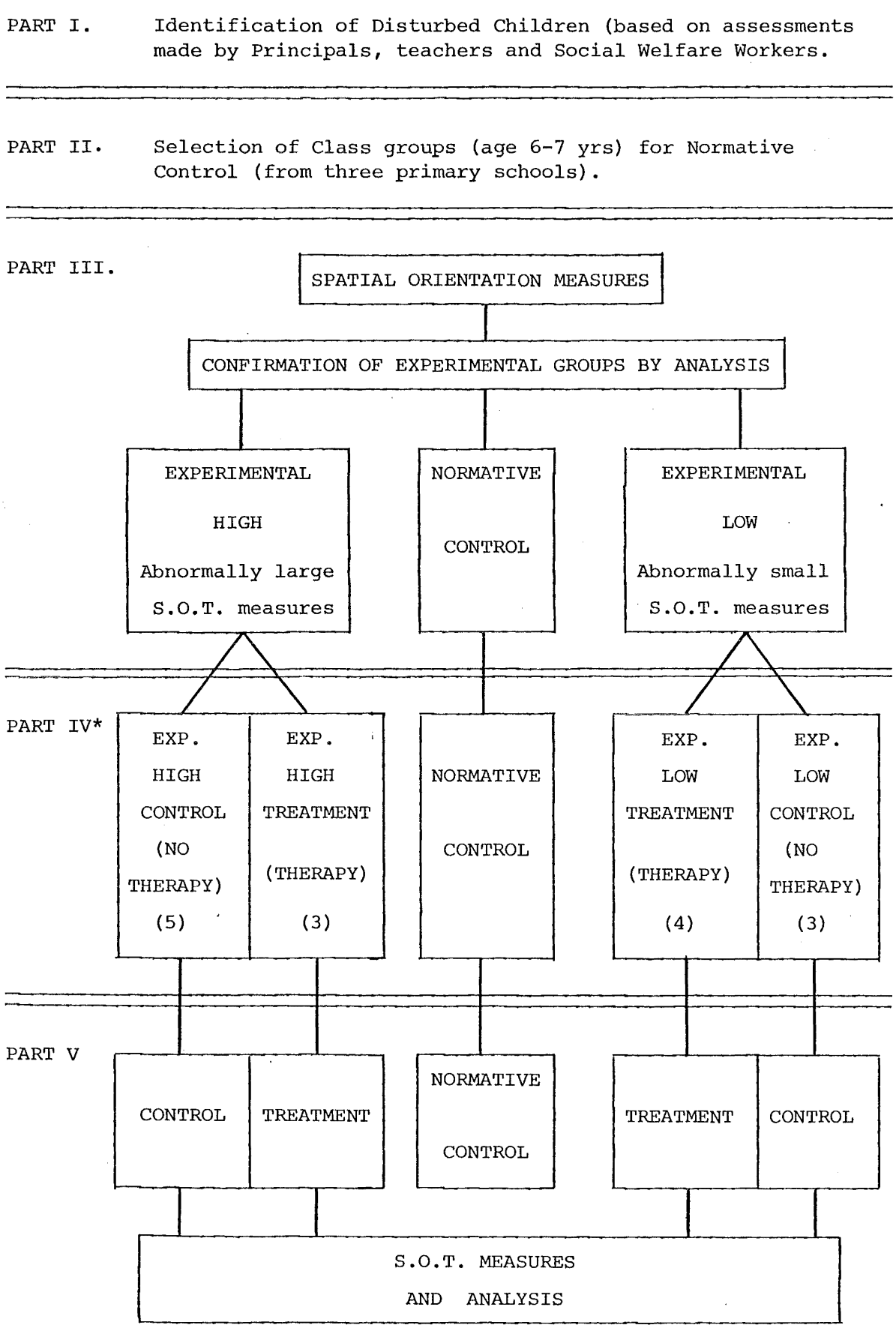
HYPOTHESIS: The Personal Space responses of children with emotional problems, which are at variance with normative patterns (regardless of direction), will move toward the normative responses as a consequence of therapeutic intervention in the form of non directive Play Therapy.

2. EXPERIMENTAL DESIGN

A 'groups comparison' design was employed for the experiment and consisted of five main parts. Figure III represents the experimental design in diagrammatic form.

PART ONE: In view of the notion that Personal Space abnormalities are related to emotional disturbance, the Social Welfare Dept. was approached with the purpose of selcting a group of foster children who were emotionally disturbed, based on evaluation by Social Workers and foster parents of the foster homes concerned. Further, a number of primary schools were approached with a similar purpose, and with the view of access to numbers of normal control group children. Principals and teachers, in conjunction with the researcher, selected children from the six to seven year old age group who appeared to be having noticeable problems. Assessment was again by means of teacher evaluation on the basis of an interview carried out by the researcher. This interview was based on material presented in a paper by Rutter & Graham (1968). These children are henceforth referred to as the Experimental Group.

FIGURE III. Flow Diagram of the Experimental Design



* Numbers shown in cells in Part IV indicate the number of subjects surviving in each of these conditions.

PART TWO: From the schools, a normative data group was generated, again with the help of the Principals concerned, which consisted of six and seven year olds from which individuals with noticeable problems had been excluded. In this case, the group consisted either of the remainder of a class group from which Experimental group children had been taken (thus acting as a control for social and environmental variables related to the school environment), or a random selection of children from various classes within the age range. These children are henceforth referred to as the Normative Control Group.

PART THREE: All children from both groups were administered a test of spatial orientation (See Section 4 of this chapter; henceforth referred to as S.O.T.), and these data were analysed by Behrens-Fisher Tests, which confirmed expectations for the experimental group. These engineered groups were seen to differ significantly from the Normative Control in both directions; i.e. children selected in Part One tended to exhibit Personal Spaces either significantly larger (Experimental Group, High) or smaller (Experimental Group, Low) than the control groups. Results from this Part are given in Table III in Chapter VI.

Children from the Experimental Group were tested twice and a correlation was calculated for the purposes of establishing the reliability of the spatial test. These coefficients are shown in Table I of Chapter VI. From these results, some support can be seen for the work of Weinstein (1965), Fisher (1967) and others, who developed the hypothesis that spatial abnormalities bore some relationship to personality and emotional abnormalities.

PART FOUR: The two Experimental Groups so formed, as per above, were split in halves, and an experimental treatment applied to one half of

each. The groups thus became:

(1)	Experimental High	(i)	control
		(ii)	treatment.
(2)	Experimental Low	(i)	control
		(ii)	treatment.

The Treatment groups received attention in the form of a series of one hour free play therapy sessions following the format and approach of Axline (1947). The experimental treatment was to continue for ten weeks, thus each child would receive ten one hour sessions. (In fact, subjects received either eight or nine sessions due to illness of both researcher and children). The Experimental Controls received no such attention.

PART FIVE: After completion of the experimental phase, the S.O.T. was readministered to all Experimental subjects. Data from the Normative Control was carried through to the final analysis.

Statistical Analysis is presented in Chapter VI.

3. SUBJECTS

Source groups for the experiment were drawn from three foster homes under the direction of the Social Welfare Department, and from three primary schools throughout Christchurch city and suburbs. Permission was required as a matter of course from the relevant authorities to begin the work.

Over each of the major data groups, Normative Control (N=56) and Experimental (N=15), the age range was 72 to 106 months, with a mean age of 85.3 months Close matching of age between these two groups was achieved; the means being 85.2 and 85.4 months respectively.

The overall sex composition closely reflected that of the general population at that age; Female 52%, Male 48%. The Experimental Group composition was also closely matched.

The initial design called for a sample size of ten subjects for each experimental group. The practical requirements of time limited the number of subjects that were able to be seen. However, these specifications could not be met due to circumstances beyond the researcher's control. Difficulties of access to foster children, and the necessity to keep the burden placed on any one classroom as minimal as possible accounted for most of the deficit. Of the original ten experimental treatment subjects, three discontinued their participation before the programme had begun, or after the first two sessions. One child declined to participate from the beginning, and another found the sessions too disruptive. He became highly agitated at the prospect. Given that the choice to continue in the programme remained at all times with the children (this being a fundamental tenet of the approach adopted), the researcher had no option but to exclude them from the analysis.

Principals from the schools were requested to identify the broad socioeconomic background of the relevant groups (all were from lower middle income range families), and the children included were restricted to these categories ensuring some measure of control over socioeconomic variables. Of the original source groups, children identified as extreme underachievers, or of subnormal intelligence were excluded from the study. No other specific information or control of I.Q. was taken.

4. DESCRIPTION OF MEASURES

The Spatial Orientation Test (S.O.T.) design is essentially a modification of the technique developed by Kuethe (1962). Whereas Kuethe employed a two dimensional presentation of human felt figure silhouettes to be placed on a felt board (others have used silhouettes drawn on paper sheets), the current study attempted to adopt somewhat of a more three dimensional approach. Cardboard silhouettes of human figures drawn in black outline on stiff white card, were mounted on small wooden blocks 40 x 25 x 18 mms in size, for placement on an open field of dimensions 300 x 400 mms. A band of lines at 5 mm intervals was drawn from top to bottom on the field, with a centre line traversing horizontally across the board.

Six silhouettes were used: one adult male, 190 mms in height; one adult female, 185 mms; and four child figures, two identical males and two identical females each of 125 mms in height.

Each silhouette was portrayed with a slight sideways aspect, and was drawn in abstract to allow subjects to 'project' onto them any person they desired, while yet retaining sufficient clarity to be easily recognised as a human figure. A pictorial presentation of the S.O.T. is shown in Figure IV.

5. PROCEDURE

(a) S.O.T. Measures

The S.O.T. was administered individually to each child. Subjects were shown the silhouettes and asked if they recognised them (as human figures). Upon recognition, each subject was presented with four pairs of silhouettes in a series; one representing himself and one of each of

the others in the following sequence: - Subject - Adult Female (AF)

" - Adult Male (AM)

" - Child Female (CF)

" - Child Male (CM)

Subjects were required to place each pair on the open field under the direction of the following instructions:

"Here are two cutouts, do you see? I want you to pretend this is you (handing relevant silhouette to child) and that this is a lady/man that you know. She/he can be anyone you might want her/him to be. Who is she/he? (Subject responds - e.g. mummy/daddy). Set them up on the board along the centre line (pointing to the line) so they're both facing the front, as if you're having a talk. Now, I want you to tell me what you might be talking about".

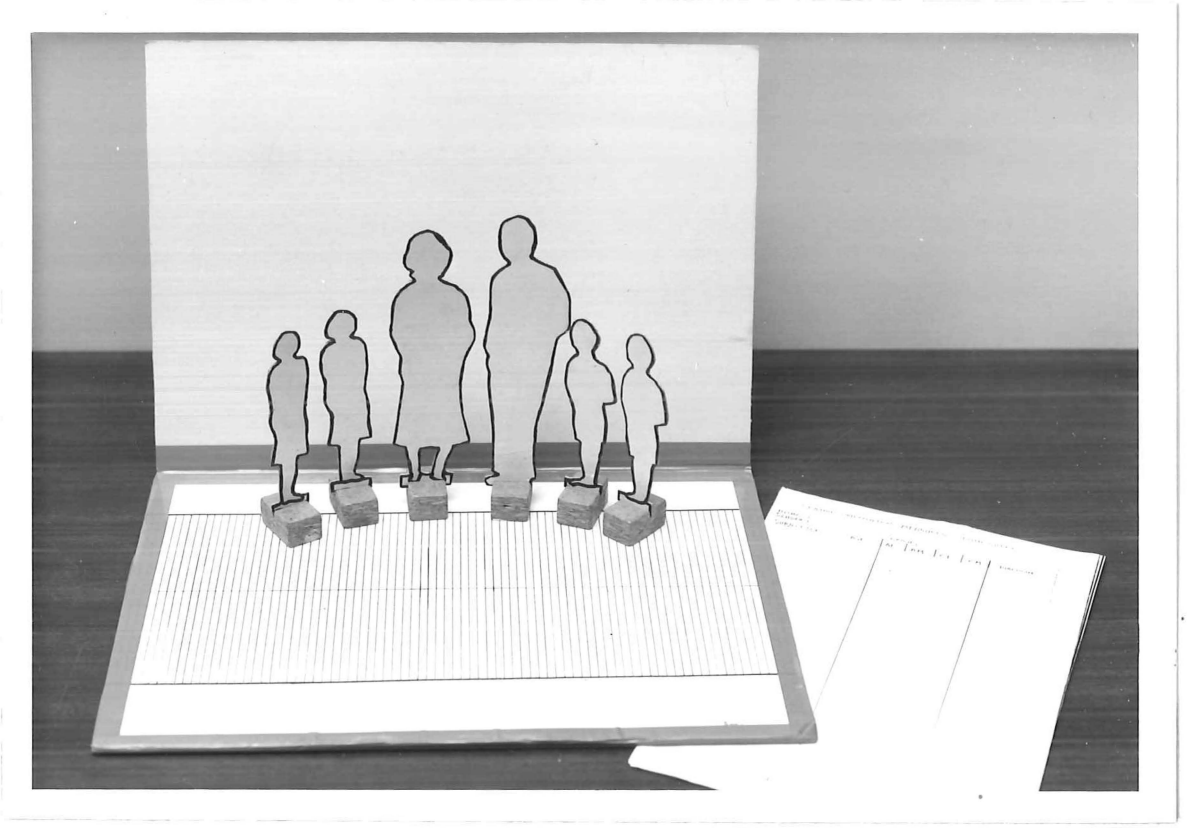
AND

"Now here is a girl/boy, about your age that you know. Who is she/he? Set them up and tell me what you're talking about".

For each pair placement, subjects were handed the relevant silhouette. Each pair of silhouettes was removed before presenting the next. No demonstration was made on the board lest this acted as a model of placement for the subjects.

The distance between cutouts upon placement was noted to the nearest 5 mms, and the subjects' identifications of the paired silhouettes was recorded. In this way a linear measurement of spatial orientation on four stimulus dimensions was obtained.

FIGURE IV. The Spatial Orientation Test (S.O.T.)



(b) Play Therapy

(i) Experimental treatment subjects were seen for one hour per week. A room in each of the schools was set aside on a regular basis for sole use during school hours. Children from the foster homes were seen after school in their own homes. A bedroom was made available, again on a regular basis, each week for the duration of the therapy period.

(ii) Materials: Not withstanding the ideal conditions for this kind of procedure outlined in Chapter IV, the rooms used were on average ten square metres in area. Those set aside in each of the schools were furnished with a desk and chairs, books, blackboard and other miscellaneous items. Furnishings in the rooms provided in the foster homes were typically those of a child's bedroom.

A selection of toys and drawing materials was brought by the researcher to each session, a list of which may be found in Appendix I. The selection was made on the basis of recommendations made by a trained clinician.

(iii) Procedure: Subjects for the therapy sessions were, in the case of those selected from the schools, withdrawn individually from the classroom each week, and taken to the playroom by the therapist. During the initial session, the children were told that they would have the chance to come to the room each week for the second term where they could do as they chose. Children from the foster homes were met regularly each week after school in their own home, and given the same instructions during their inaugural session.

The free structure of the situation was emphasized throughout. The children were told that they might play with any, all or none of the toys as they saw fit, without having to seek permission for the activities they chose. The therapy sessions followed the fundamental principles of non directive Play Therapy as outlined in Chapter IV.

FIGURE V. Selection of Toys Used in Play Therapy

Two constraints were placed on the situation; (1) the children were not permitted to leave the therapy room during the duration of the session (except for some specific important purpose), however they may have at anytime discontinued any session. The children themselves determined the session length; all chose to remain for the full hour. (2) No physical damage to property (except the toys) would be tolerated.

Within these confines then, the choices remained at all times with the children. However, the therapist did in all events follow closely the chosen activities, participating and leading where directed to do so by the child, or simply observing when the activity concerned the child only.

GENERAL COMMENTS

The children were seen in Term II of the academic year of 1979. This term was chosen to give each child time to adjust to a new year at school. The narrow age group was designed to minimize the effects of any natural developmental shifts in spatial behaviour. The S.O.T. was readministered to the Experimental Control and Experimental treatment groups after the completion of the therapy sessions.

CHAPTER VI

RESULTS

S.O.T. MEASURES

The S.O.T. measures were obtained according to the procedure described in the previous chapter. All measures reported here are in millimetres, unless where otherwise stated. Each of the four pair comparisons (Subject - AF (hereafter AF); Subject - AM (AM); Subject - CF (CF); and Subject - CM (CM)) were measured for all subjects. The reliability of the S.O.T. was measured by test retest correlations. Test-retest reliability was calculated on the combined Experimental groups (N=15) for each of the pair comparisons (except for CM: N=14, due to faulty reporting of score). The time period between test and retest was two days for 33% of the cases, and one week for the remainder. The observed correlations are presented in Table I.

TABLE I. Test-Retest Reliability Correlations for S.O.T.

AF	.88
AM	.73
CF	.92
CM	.93
* N=14 (all others N=15)	

All observed values greater than critical value for

r (N=15) = .64 $p < .01$.

The current S.O.T. appeared to measure the behaviour reliably over the time period indicated on all four pair comparisons. (However, it is stressed again at this point, that the sample size for the experiment is small, and thus the S.O.T. as presented here needs to be subjected to more rigorous assessment and validation before it can be confidently employed more widely.

S.O.T. DISTRIBUTION

The S.O.T. data for the Normative Control sample are presented in Figure VI. The data are expressed as the percent frequency of response for each spatial response size. Scores are composed of the mean spatial response across the four pair comparisons, (a composite summary score for each individual). Both the Traditional Plan Schools' distribution curve and the Open Plan School curve are shown. The former is rather more peaked than the latter, indicating a tendency for subjects in the open plan situation to utilize a wider variety or broader range of spatial distances than those of the Traditional Plan condition. The Traditional Plan group was more homogeneous in terms of its range of spatial behaviours as indicated by this S.O.T; although the graph does reveal a slight tail toward the upper end of the distribution. This trend supports the hypothesis forwarded in Chapter III, which suggests that given the less structured spatial environment of an Open Plan school, the spatial responses of children under this regime would be more diverse than those of a more structured spatial environment. However, the data presented in Figure VI are the means for all of four comparisons for each subject. When these pair comparisons were analysed individually, no statistically significant differences emerged, except for the AM comparison. Since each pair comparison was considered to be discreet (i.e. unrelated to the others),

each was analysed using the Behrens Fisher test as outlined by Phillips (1973, pp 283-284). Table II presents the data for the traditional/ open plan comparison.

TABLE II. Mean Spatial Responses of Open Plan and Traditional Plan Subjects; (Normative Control)

PAIR COMPARISON	TRADITIONAL N = 34		OPEN PLAN N = 22	
	$\bar{X}$	(S)	$\bar{X}$	(S)
AF	44.85	21.16	56.82	35.71
AM	39.41	14.08	55.00	29.56
CF	37.79	20.68	53.41	36.33
CM	38.82	23.84	49.09	29.87

The results, for the four comparisons, of the Behrens Fisher tests are as follows:-

AF: $-3.08 \lesssim \delta \lesssim 32.18$ (not significant)

AM: $1.49 \lesssim \delta \lesssim 29.70$ (significant $p < .05$)

CF: $-2.18 \lesssim \delta \lesssim 33.42$ (not significant)

CM: $-5.70 \lesssim \delta \lesssim 26.24$ (not significant)

Clearly, there is some sort of trend in the data since the means and standard deviations for the Open Plan subjects are consistently higher than those of the Traditional Plan subjects. However, this trend is not significant except for the AM comparison. [A graphical presentation of the distribution of AM scores is given in Figure VII.]

No within group differences of significance between any two pair comparisons were observed.

FIGURE VI. Traditional Plan/Open Plan Spatial Distribution Curves (Normative Control Goup).

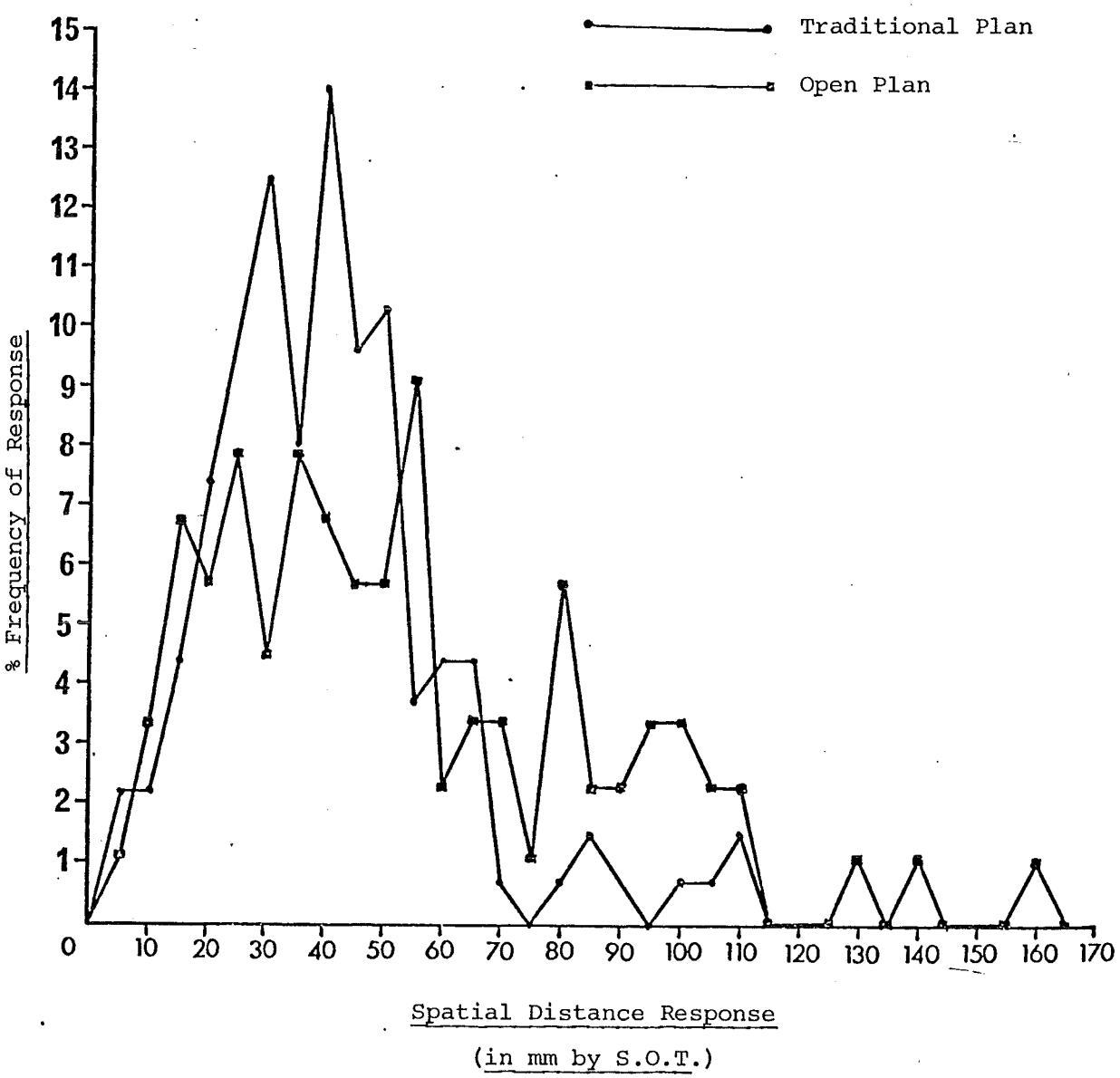
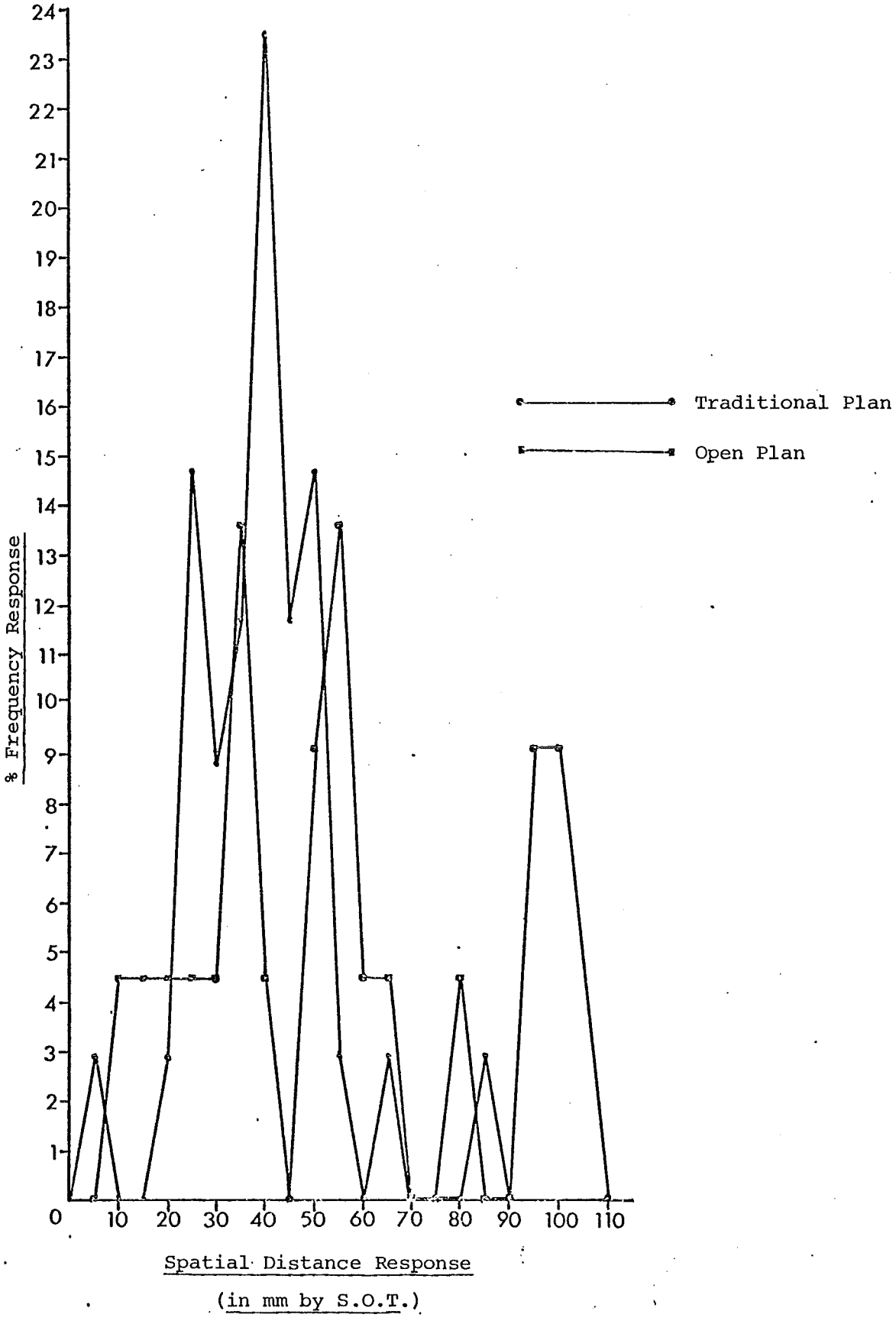


FIGURE VII. Spatial Distribution Curve for AM Comparison



S.O.T. RESULTS FOR EXPERIMENTAL CONDITIONS

On the basis of teacher/social welfare worker evaluations, Experimental groups for the S.O.T. were developed. The design required that these groups (Experimental Treatment (High and Low) and Experimental Control (High and Low)) differ significantly from Normative Controls prior to intervention. These differences were confirmed by means of Student t test analyses on the resultant S.O.T. data (see Part III of Figure III, Chapter V). Table III presents the data for these groups prior to the experimental intervention, with the associated t scores and corresponding levels of significance.

As Table III demonstrates, the Experimental groups differed significantly from the Normative Controls on the S.O.T. (with the exception of the AF pair comparison for the Experimental High Control group). As mentioned earlier, these groups were developed on the basis of evaluations made by school and welfare staff concerning the emotional health of the children. These results then, afford some measure of support for the contention that emotionally disturbed children tend to exhibit differing patterns of spatial behaviour (in terms of a distance measure of Personal Space), than normals. Clearly however, the research at this point employed a rather loose definition of 'emotional disturbance'. The major criterion for inclusion in the Experimental groups was an abnormal spatial response, and thus to some extent, the relationship, one with another, is somewhat circular. It is pertinent to note however, that all children included in the Experimental groups were indeed those identified by the evaluations as problem children.

S.O.T. measures were repeated after intervention for all Experimental groups (Normative control data was carried over from one condition to the other since retesting such numbers was an impracticality). The S.O.T. data after intervention is presented in Table IV.

TABLE III. S.O.T. RESULTS FOR EXPERIMENTAL AND CONTROL GROUPS PRIOR TO INTERVENTION

PAIR COMPARISON	EXPERIMENTAL HIGH						NORMATIVE CONTROL		EXPERIMENTAL LOW					
	TREATMENT (df = 57)			CONTROL (df = 59)			(N = 56)		TREATMENT (df = 58)			CONTROL (df = 58)		
	$\bar{X}$	(S)	t	$\bar{X}$	(S)	t	$\bar{X}$	(S)	$\bar{X}$	(S)	t	$\bar{X}$	(S)	t
AF	120.83	(13.77)	8.03(6)	101.00	(62.16)	1.81(1)	50.18	(28.17)	18.75	(10.51)	4.86(6)	15.00	(13.23)	4.13(6)
AM	99.17	(7.22)	10.43(6)	110.50	(61.27)	2.36(2)	45.45	(22.67)	24.37	(15.99)	2.47(3)	14.17	(11.81)	4.19(6)
CF	123.33	(17.02)	7.53(6)	104.50	(36.80)	3.58(5)	43.93	(28.62)	15.00	(10.21)	4.54(6)	5.00	(5.00)	8.13(6)
CM	104.17	(30.55)	3.41(5)	92.00	(38.79)	2.78(4)	42.86	(26.47)	16.87	(8.26)	4.78(6)	10.00	(13.23	3.90(6)

t scores shown for comparisons between each respective Experimental Group Pair Comparison and its corresponding Normative Control pair.

Levels of Significance as follows:

(1) Not significant
(2) $p < .05$
(3) $p < .02$
(4) $p < .01$
(5) $p < .002$
(6) $p < .005$

TABLE IV. S.O.T. RESULTS FOR EXPERIMENTAL GROUPS AFTER INTERVENTION

	EXPERIMENTAL HIGH (N=8)				EXPERIMENTAL LOW (N=7)			
	TREATMENT		CONTROL		TREATMENT		CONTROL	
	$\bar{X}$	(S)	$\bar{X}$	(S)	$\bar{X}$	(S)	$\bar{X}$	(S)
AF	35.00	(13.23)	71.00	(17.82)	36.25	(10.31)	21.60	(10.41)
AM	38.33	(40.72)	67.00	(15.25)	37.50	(12.58)	21.60	(14.43)
CF	36.63	(24.66)	45.00	(32.00)	35.00	(12.25)	18.30	(11.56)
CM	48.33	(20.21)	48.00	(24.65)	38.75	(6.29)	20.00	(15.00)

EXPECTED OUTCOME

The hypothesis predicted that as a consequence of intervention, there would occur a greater downward shift in the Experimental High Treatment Group mean, toward the Normative Control mean, than that occurring in their respective controls. This expected outcome is presented graphically in Figure VIII. The observed outcomes for each pair comparison are shown in Figure IX (Parts A, B, C and D). Collapsed data (i.e. mean scores across the four pair comparisons) are presented in Figure X.

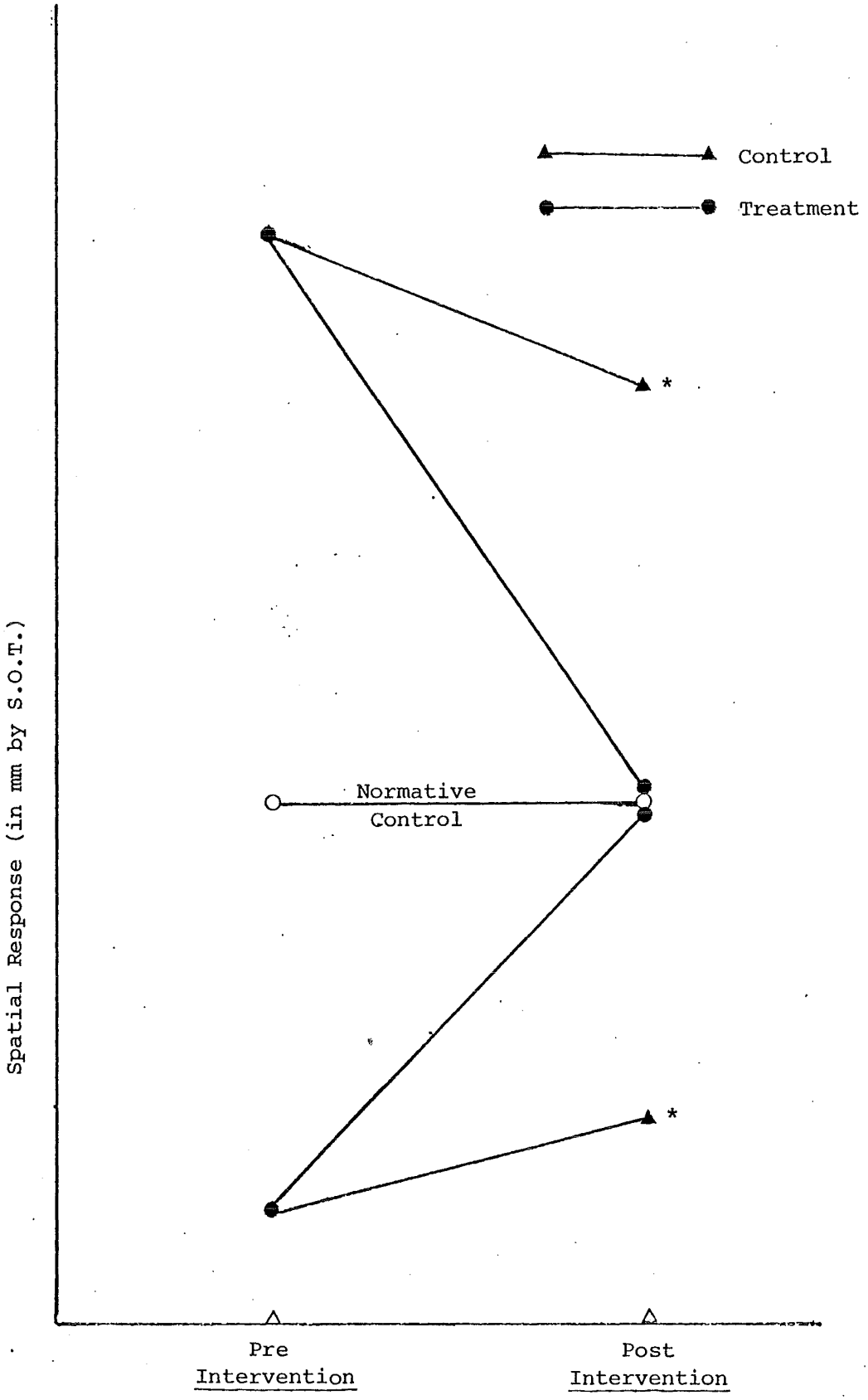
ANALYSIS OF RESULTS

A Multivariate Analysis of Variance (Complete Factorial), MANOVA, was initially carried out on all experimental data to assess the degree of complex interaction between experimental conditions (high and low groups) and between the four sets of spatial measures (i.e. the four pair comparisons).

No significant complex interaction was observed. This provided justification for each condition (high and low) to be considered in the analysis as discreet and unrelated. Further, there was no significant

FIGURE VIII. Expected Outcome of Experimental Hypothesis

(Group Means)



* A shift toward the Normative or Overall mean in these groups is expected as a statistical consequence of regression to the mean and the James Stein effect (Efron & Morris 1977) irrespective of any treatment effect.

FIGURE IX (A). Observed Outcome for AF Comparison

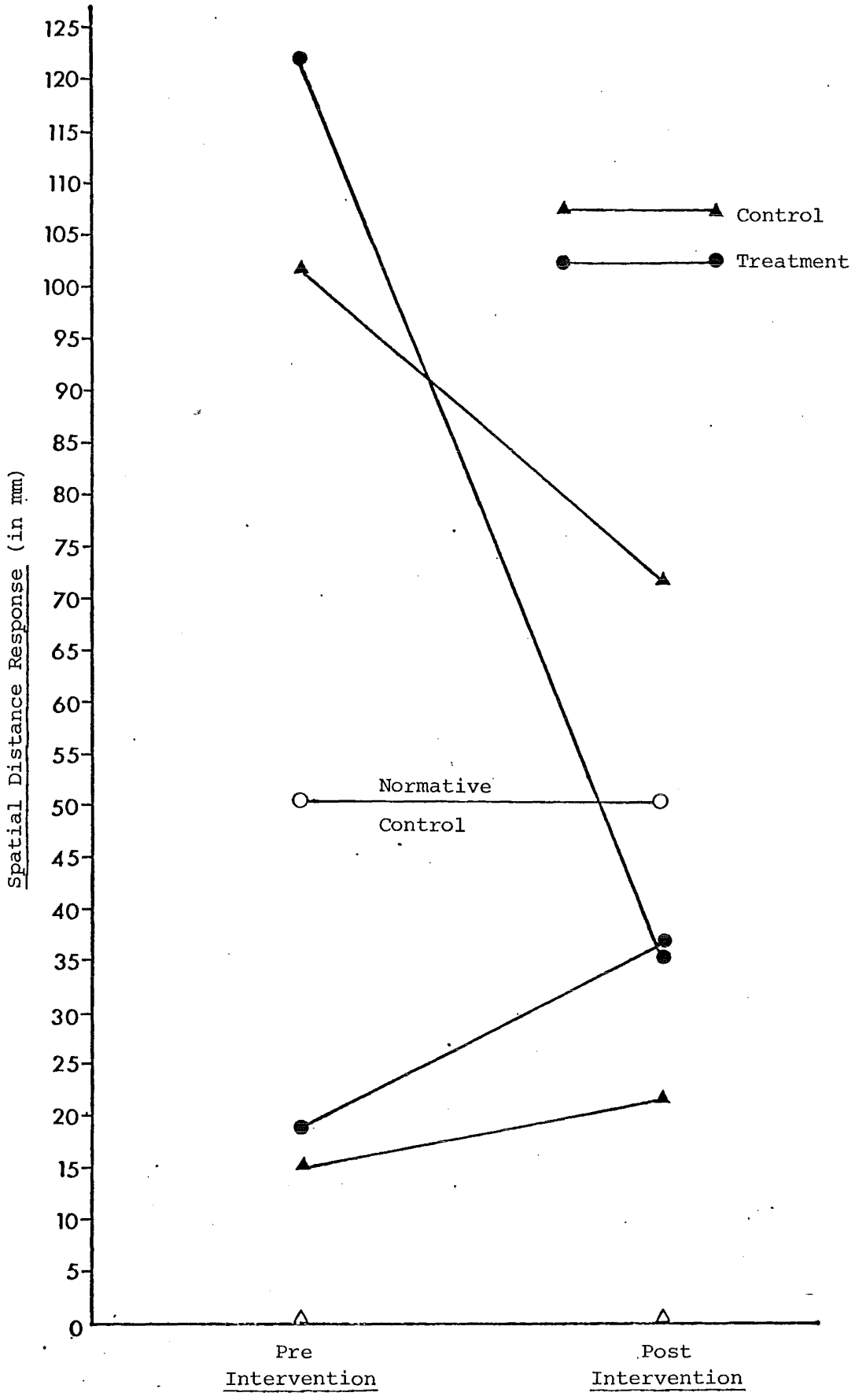


FIGURE IX (B). Observed Outcome for AM Comparison

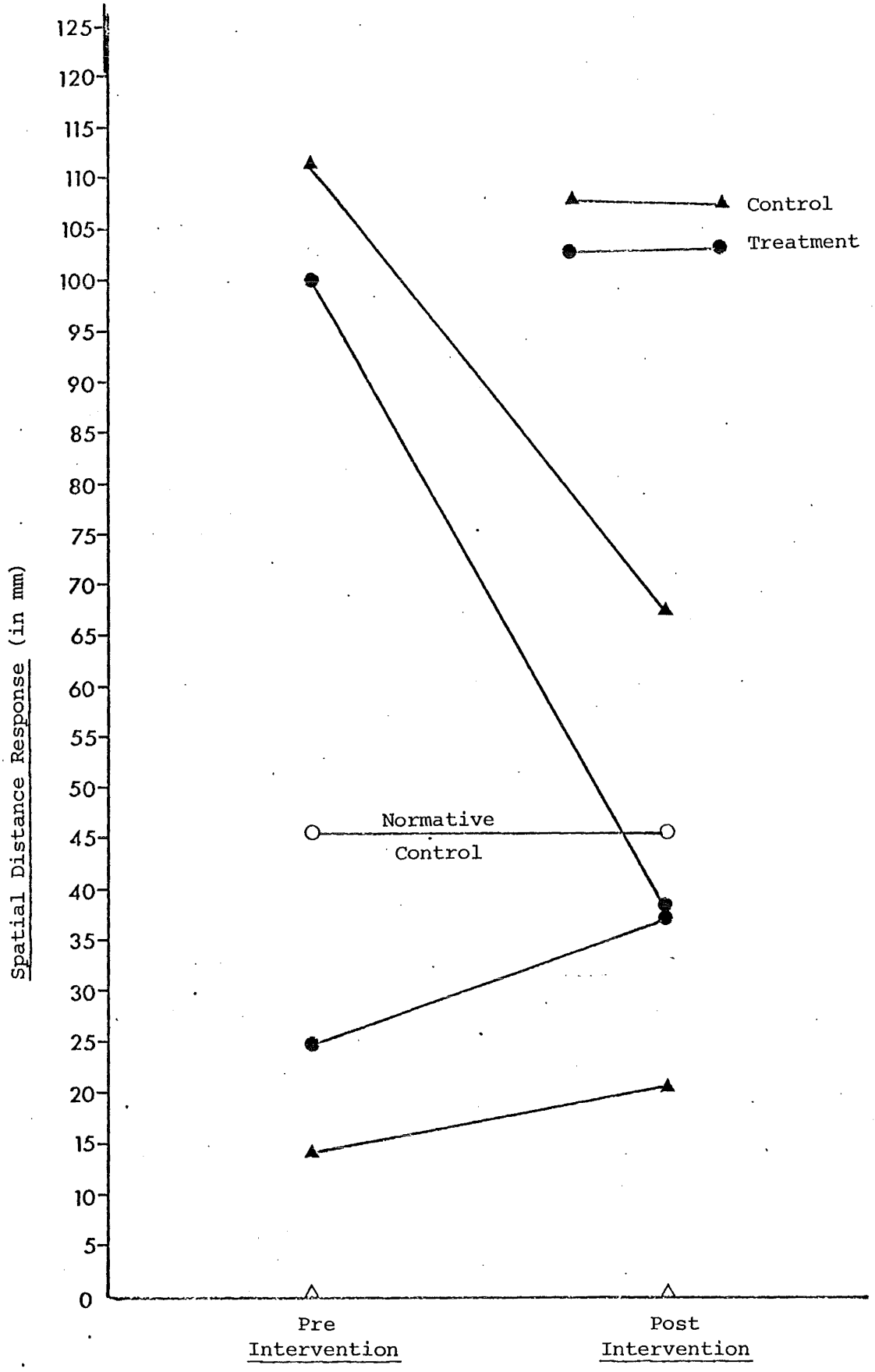


FIGURE IX (C). Observed Outcome for CF Comparison.

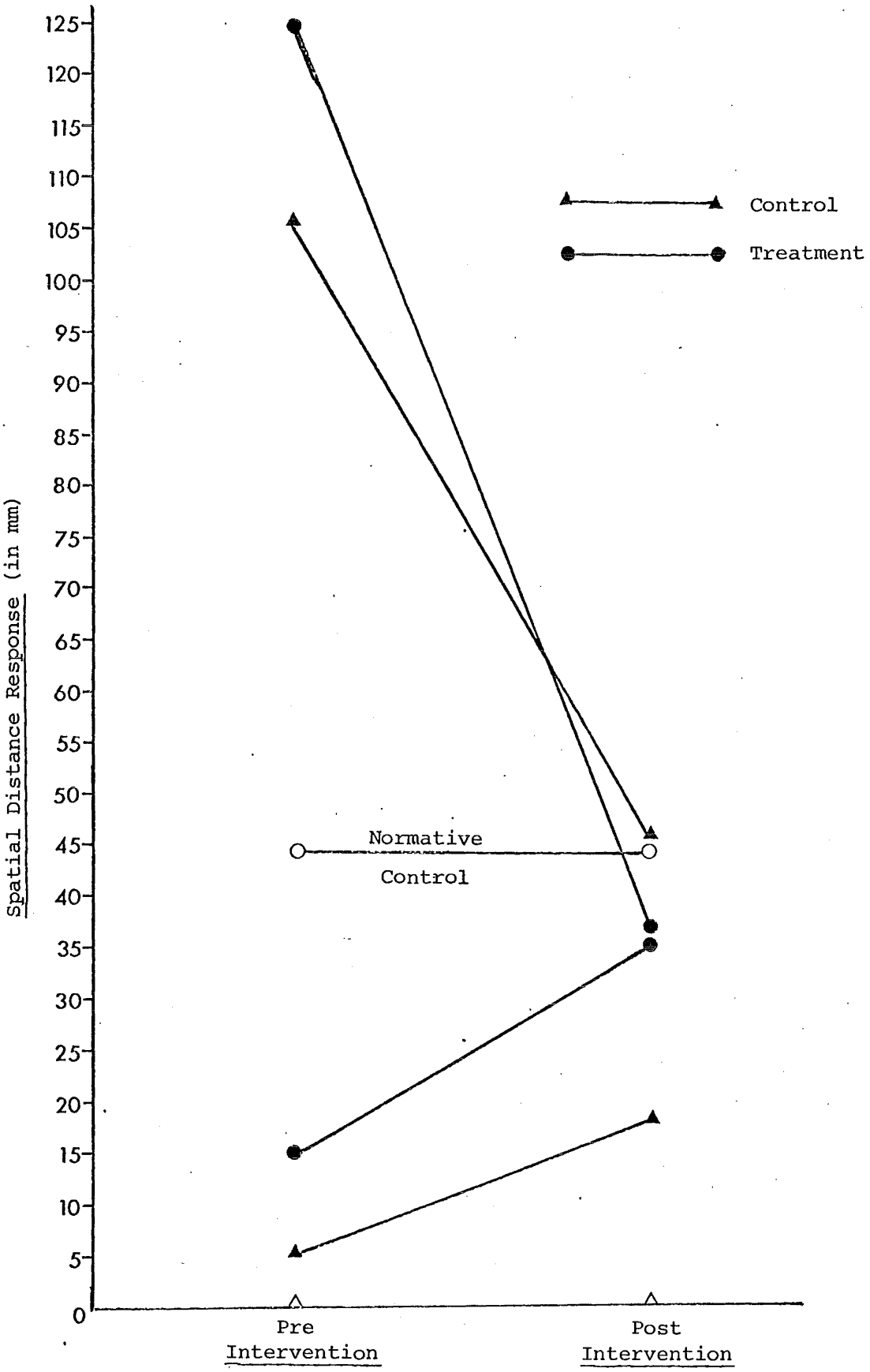


FIGURE IX (D). Observed Outcome for CM Comparisons

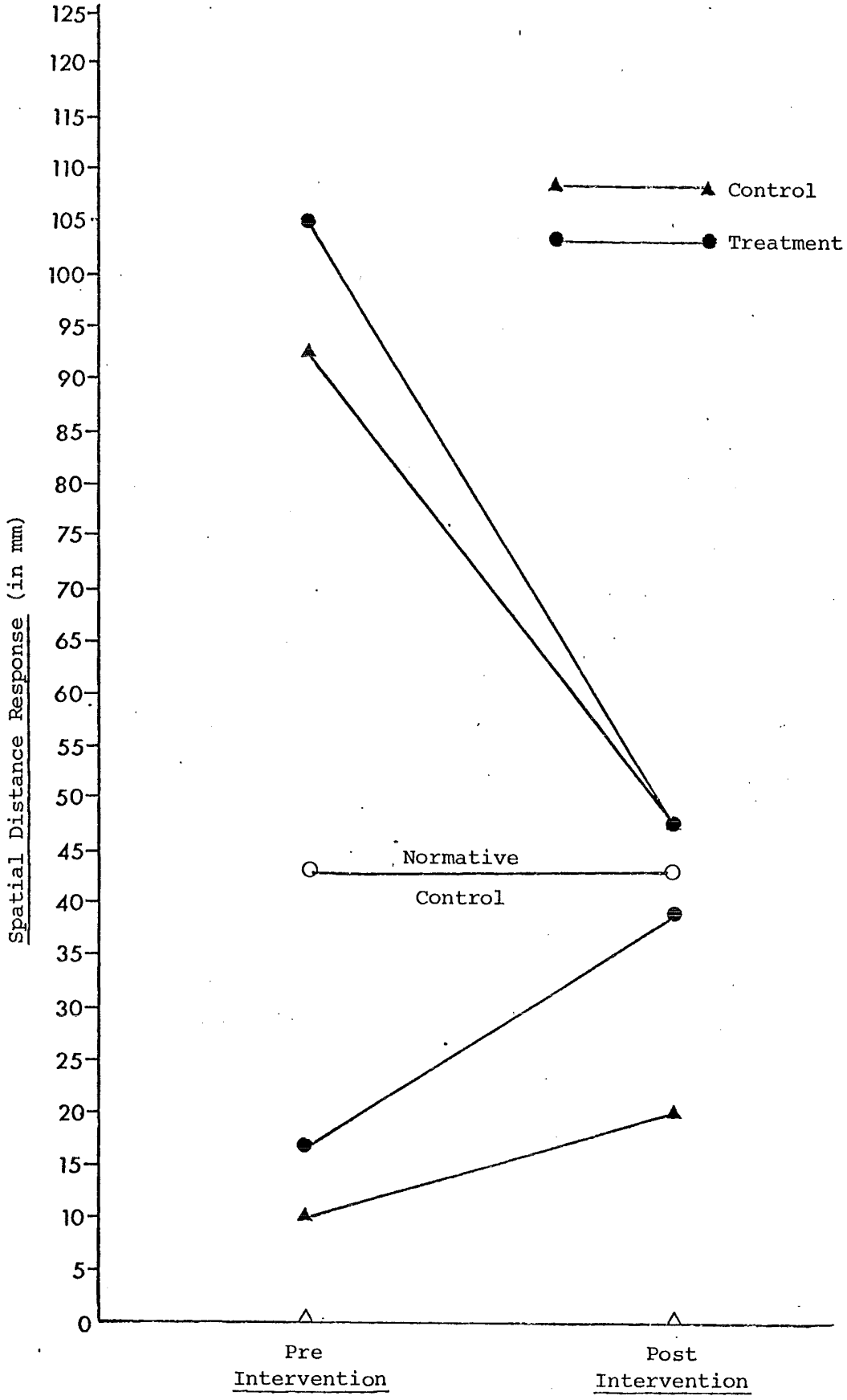
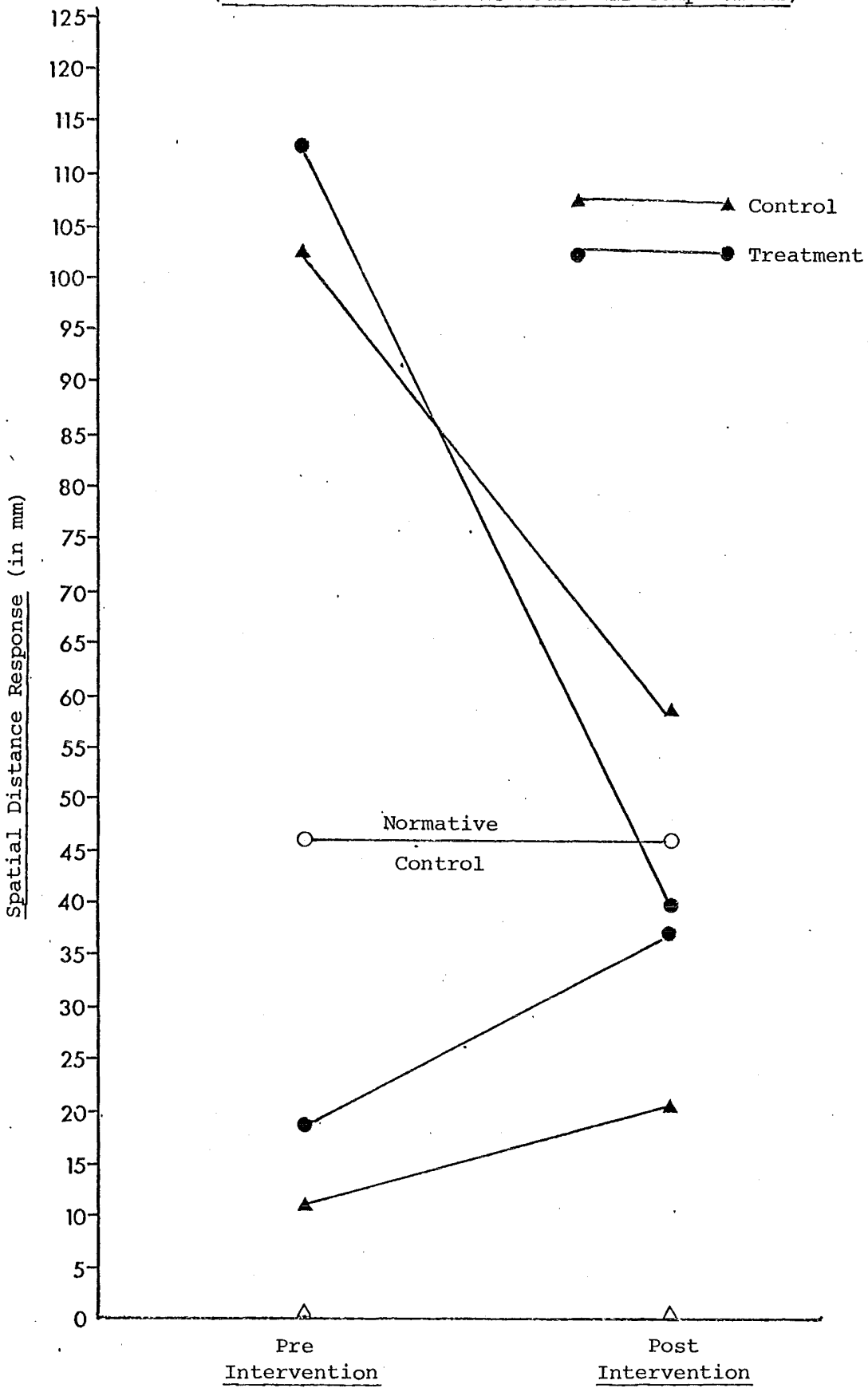


FIGURE X. Observed Outcome Over All Comparisons

(Mean Scores Across the Four Pair Comparisons)



difference or complex interaction between any of the four pair comparisons.

The S.O.T. data for all experimental groups were then analysed by means of Two Way Analyses of Variance (ANOVA) with Repeated Measures on Factor B (Pre Intervention; Post Intervention) using an unweighted means solution (Winer 1971; p.601). A separate ANOVA for each condition (high and low) was carried out. Since each pair comparison was non significantly different from any other, the data here consisted of a composite score for each subject, being the mean spatial response score across the four pair comparisons (i.e. those data presented in Figure X). Summary tables for the two ANOVA s are presented in Table V.

The hypothesis anticipated a significant differentiation between treatment and control groups as a consequence of intervention. This differentiation was not evident in the data. The ANOVA s revealed that no significant treatment effect occurred:

HIGH CONDITION (between group differences) $F < 1$

LOW CONDITION (between group differences) $F = 3.37 <$ F crit. $(1,5) = 6.61$; $p > .05$.

A perusal of the graphs constituting Figures IX and X reveals that observable shifts in the group mean spatial responses of subjects in both treatment and control groups occurred are the pre/post intervention period (albeit this shift was not uniform from group to group or from one pair comparison to the next. This before/after effect is significant for both groups, as revealed by the ANOVA s:

HIGH CONDITION: F crit. $.98(1,6) = 8.81 <$ F observed $(1,6) = 13.24$

$p < .02$.

LOW CONDITION: F crit. $.95(1,5) = 6.61 <$ F observed $(1,5) = 9.10$

$p < .05$.

As mentioned earlier however, such a shift is not unexpected, since all group means can be expected to regress toward the overall Normative mean as a statistical artefact. This statistical regression would not have disguised any treatment effect should it have occurred (as per above), since it would have affected the control and treatment group equally within each condition.

TABLE V. ANALYSIS OF VARIANCE FOR S.O.T. DATA

PART ONE: HIGH CONDITION:

SOURCE OF VARIATION	SS	df	MS	F
Between Subjects		7		
A	64.77	1	64.77	<1
Subjects within groups	1,968.60	6	328.10	
Within Subjects		8		
B	12,798.43	1	12,788.43	13.24
AB	741.56	1	741.56	0.77
B x subjects within groups.	5,799.12	6	966.52	

PART TWO: LOW CONDITION:

SOURCE OF VARIATION	SS	df	MS	F
Between Subjects		6		
A	500.88	1	500.88	3.37
Subjects within groups	743.35	5	148.67	
Within Subjects		6		
B	648.92	1	648.92	9.10
AB	65.68	1	65.68	0.92
B x subjects within groups	285.15	4	71.28	

CHAPTER VII

DISCUSSION

It has been the intent of the present research to demonstrate and assess a number of variables concerning human spatial behaviour. First and foremost, the primary aim has been to investigate the degree of fixity or consistency of such spatial responses, in terms of a linear expression of Personal Space. Related to this overall theme has been the concern to compare the spatial orientations of Open Plan primary school children with those of their Traditional Plan counterparts, given the current debate over the efficacy of both regimes as meaningful educative and social environments. This latter concern will be considered first.

1. OPEN PLAN v. TRADITIONAL PLAN

As mentioned in Chapter VI, the results appear to suggest that the children from an Open Plan (OP) setting tend to exhibit a broader range of spatial responses than those of the Traditional Plan (TP) institutions. The latter group appears to be much more homogeneous in the range of spatial distances utilized. This can clearly be seen in Figure VI. The TP curve is more peaked than that of the OP group; i.e. it encompasses a much narrower range of responses with relatively high frequencies of response within that range. The OP curve exhibits much less of a tendency to peak at any one point, and extends over a much broader range of responses.

Statistically however, there is no real difference in these distributions. The standard deviations of both groups of data are sufficiently large enough to offset any significant differences in means. When isolated out into the four pair comparisons, only the AM comparison exhibits any

significant difference (although it is really quite marginal $p < .05$); the standard deviations for each group are noticeably smaller (see Table II). Exactly why this is so for this particular comparison is unclear. More research into this area needs to be carried out in order to more precisely specify the parameters which determine the patterns of spatial orientation to one class of figure (in terms of sex) relative to another.

Of further interest in this regard is the trend evident in the data for the size of spatial responses in both groups to decrease with reference to peers as compared to adults. Spatial responses to peers (of both sexes) were smaller than they were to adults. The largest mean distance between pairs for both groups was recorded on the AF comparison. Tolor (1968; see Chapter IV) suggests that in the light of the importance of the female figure in childbearing, subjects would place pairs involving a female figure further apart than those involving male figures. This appears to be true, at least when the female figure is an adult. However, Tolor's thesis concerns emotionally disturbed children. The sample for the experiment at this point was comprised of 'normal' children. Analysis revealed that no interpair differences at an intra group level were large enough to be significant statistically. Tolor's thesis, then, is not really supported by this study.

Overall then, the data tends to offer little support for the hypothesis that spatial orientations differ significantly between Open Plan and Traditional Plan samples. This lack of significance might best be explained by the fact that children are under the influence of either regime for only five hours a day. The rest of the time they are subject to the home or other social environments; variables which might reasonably be expected to differ little from one group to the next. There is a trend

evident in the data though, as shown by the consistently higher mean response sizes for each pair comparison in the OP sample. The age range of the sample children was approximately six and one half to seven and one half years; by this age they would have each completed only two years or so of schooling and thus, only this brief period of exposure to the two environments. Perhaps after an extended period of exposure, this trend would accentuate and become more significant in the direction indicated by the hypothesis.

2. THE SPATIAL HYPOTHESIS

The primary hypothesis for this research was designed to assess the degree of fixity or consistency in the human spatial response. It set out to make this assessment by taking extreme or abnormal spatial responses exhibited by a group of experimental subjects and by means of experimental intervention, induce a significant shift in response in one half (experimental treatment), while holding the other half constant (experimental control). Given the shifts that may or may not have occurred, some indication of the fixity or fluidity of that reponse could thus be achieved. In summary, the hypothesis stated that the treatment group would shift significantly toward the norm with regard to the controls, the shift being a treatment effect as a consequence of intervention. The extreme spatial responses were obtained from a group of disturbed children on the basis of research identifying abnormality in spatial orientations among such children.

While the data provide tentative support for the contention that disturbed children do differ to some extent from normal children with regard to their personal space behaviour, they fail to support the contention of the experimental hypothesis that intervention in the form of

non-directive Play Therapy would result in a significant differentiation between treatment and control groups. While there did occur a significant before/after effect, the tendency was strongly evident for both groups, and thus cannot readily be attributed solely to the experimental intervention.

A great deal of regression toward the mean seemed to occur in the mean scores for the control groups; so much, in fact, that no treatment effect could be discerned. Evans and Howard (1973) and Eberts and Lepper (1975) suggest that while developmental processes affect patterns of spatial behaviour from as early as age three, there appears to be a great deal of consistency in responding at quite an early age. Adult patterns appear to be approximated at around age twelve. In a dichotomized piece of research, the latter mentioned authors attempted to demonstrate the consistency in spatial behaviours of young children. Their research concluded that -

> "the substantial consistency obtained in subjects' spatial behaviour in these two studies, a month apart, is striking. Clearly the data indicate that by the age of four or five, children have already developed stable patterns of proximic behaviour in their interactions with others".
>
> (Eberts and Lepper 1975; p.848).

On the basis of these "findings of significant consistency", the current research assumed that the ten week intervention period would not be confounded by any significant natural shifts (either as a consequence of development or due to natural inconsistencies) in the behaviour of controls. Clearly in this case, the assumption appears to have been misplaced, and the data seem not to concur with the findings of the aforementioned studies.

Over and above any natural regression toward the mean in the data over time, it is difficult to specify exactly the reasons for the non existence of any significant experimental effect.

However, while previous experimenters have made use of normal children in their samples, the present research has concentrated primarily on those with notable behavioural, social and emotional problems. Given this distinction, the findings here suggest (but of course, by no means prove), a marked fluidity or inconsistency in the spatial responses of children with such problems, as opposed to the consistent, relatively fixed patterns of responses in normals. Unfortunately, the research of many earlier writers (Weinstein, Hobbs, Fisher, Tolor, Guardo, Kuethe, Meisels etc), has made use of designs measuring spatial behaviours at one moment in time. There is a dearth of good research measuring the changes in spatial behaviours over time, and therefore while the current research has to some extent knocked on the door of such investigation, there remains little equivalent research with which the present study can be compared. Reasons for the observed changes must therefore, remain quite speculative. The following however are presented as possible explanations for the results as observed.

A fundamental tenet of the Open Plan philosophy resides in the overall development and fostering of social relationships among pupils and staff. Ideally, the whole system, both physical and educational, is supposed to act as an experimental laboratory in which children are encouraged to explore their own and others capacities for interaction and to participate in that interaction at any level they so choose. Essentially, this can be seen to be somewhat analogous to the principles underlying non directive Play Therapy. The point here is that the school environment may well have had an overall therapeutic effect in itself on all of the

experimental subjects from that school. Anecdotally, a teacher reported to the researcher, the case of a child who, at the beginning of the year, suffered quite severe difficulties in terms of withdrawn, shy and anxious behaviour. As the year progressed, he made quite notable gains, and began to participate more freely and frequently in group activities. This was attributed to the supportive, yet extending and self structured environment purportedly offered by the Open Plan programme. Palmer (1977) notes that one of the main advantages of the open plan system is ... "the

> greater opportunity for interaction for both children and teachers".
>
> (Palmer 1977; p.21).

Likewise at one of the Traditional Plan schools, a social awareness programme existed whereby the children congregated in a 'circle' each morning and shared experiences or discussed a topic suggested by the teacher. The aim here was to foster and encourage social interaction among the pupils. This programme may well have had a similarly therapeutic effect on the children; an affect not well accounted for by the design. No outcome measures were taken to assess the effect of this programme however, and so it is not possible to demonstrate the degree of influence it extended over the spatial responses of experimental subjects, and thus the research cannot make any definitive statements based on this point. In lieu thereof, it is hypothesized that the combined effects of the programme and the Open Plan environment confounded the spatial measures of all children in the experimental sample.

Differential treatment of pupils by teachers according to expectancy, and its associated behavioural consequences have been well documented in the literature (Rosenthal 1966; Rosenthal & Jacobson 1968; Nash 1976).

The teachers and social workers involved in this study were not naive to the experimental procedure, and thus were aware of the individual subjects comprising the treatment and control groups. It is possible that these individuals received more sympathetic (or maybe even less sympathetic) attention as an unwitting or unconscious response to this knowledge, which may have blurred the distinction between groups.

Eberts (1972) found that the simple knowledge of the fact that his interaction distance is being measured may significantly alter a subject's spatial response (most likely in the direction of patterns considered to be most socially acceptable as perceived by the subject). The present procedure made use of a distraction task (telling a story about the conversation that might occur between pair comparison members), aimed at disguising to real issue of interaction distance. However, the researcher felt at times that some of the children were aware of the fact that other factors besides the story were being paid attention to. It could be that both experimental and control group members modified their subsequent post test responses in this way.

A final point which might help to explain the non significant differentiation between experimental and control groups resides in the issues raised by Clarke (1978). Clarke notes that there occurs a natural and spontaneous recovery among approximately half of the population of children suffering from mild emotional disorders by the onset of adolescence, without any form of intervention whatsoever. For Clarke, "... the major picture ... is one of inconsistency of characteristics" over time. It is reasonable, although not experimentally demonstrable here, that this non differentiation between groups can be attributed in part, to this 'recovery'. Given that both groups regressed toward normative responses in a similar fashion, it is not unreasonable to consider

that similar processes were at work within each. However, the period of intervention was only ten weeks, and the age group of the children was six to seven years. There may, therefore, have been hardly sufficient time for such a natural process to occur, or at least to show up on the test, and so this argument may well be somewhat unconvincing in itself.

It is stressed again at this point, that since there is little comparable research against which the present study can be assessed, the ideas put forward here by way of explanation must be regarded at best as suggestions rather than definitive statements, and therefore become the domain of future research to consider in full. It is really beyond the scope of the research at this point to assess more fully the potency of these various hypotheses as presented. It is most likely that each contributed in some small but cumulative way in producing the results observed.

The aims of the present research were primarily to observe changes or consistencies in spatial behaviour over time as a consequence of experimental intervention. However, Play Therapy is not just a remedial or treatment procedure. It seeks to bring about constructive change in personality and behaviour by injecting into the life space of the child a relationship of warmth, acceptance and trust. The researcher sought to do this in each and every encounter, although this was initially impeded by the newness of the situation. Security and relaxation during each encounter are primary goals, not only from a theoretical point of view (re Rogers), but also from a personal standpoint. Therapy of this nature is essentially a personal relationship, and like all such relationships, trust, warmth and acceptance are meaningful and integral elements. To some extent, one's ability to achieve the goals depend on the character-

istics of the participants themselves, but nevertheless they can be developed. In this way then, the present study can be seen to be more than just a clinical piece of experimental research. This duality is an important notion to grasp if one is to appreciate fully the nature of the project as undertaken here.

3. THE EXPERIENCE OF THERAPY

Most of the children were unsure of themselves and of the situation during the first few sessions, and some time was required before an adequate rapport was established with each child.

For example, Rochelle was an extremely quiet girl - she made a sum total of three spontaneous utterances to the researcher (R) in her first session, and by the end of the third had made just ten. Thus, a meaningful relationship was difficult to establish. R attempted to smile each time Rochelle looked in his direction, and to verbally respond each time she spoke. It took some time before R felt a reasonable rapport had been generated. In the last session, Rochelle was able to conduct a twenty minute conversation with R, before proceeding to spend the next 40 minutes discussing her activities.

Jane was another girl with whom it was difficult to generate a working relationship. When she first attended, she stood to attention, arms stiff to her side, staring at the toys for about seven or eight minutes. R found it hard to react to this, and so a simple accepting lead was employed:

R; "You're feeling a little unsure about being here!"

After several gentle explanations of the nature of the sessions, Jane began tentatively to play, but made no meaningful comments throughout.

Her second session began similarly. She appeared rather uncomfortable, even about not doing anything. Again, her activities were muted. Jane's third contact did bring a significant change, however. After a typically hesitant start, she began to experiment with the wooden alphabet blocks, spelling out the names of her family and pets. She enlisted R's help to create new combinations of letters using others as those she required were used up. Jane appeared to enjoy this, and began to talk more freely. She seemed hesitant to leave when the hour was up. Jane's fourth session began with her making straight for the letters and recreating her previous activities. During the final ten minutes of the contact, she drew a picture of a tree, nest, and eggs. Across the top she wrote - 'I am happy'. (For a brief teacher report on Jane, see Appendix II).

In contrast, Marina seemed to relax almost immediately, and instantly became very playful, experimenting and talkative. The following is a transcript of part of the first session:

Marina (M): "I like the slimy wymie. I want to put it on my jacket. I'm gonna put it down my sleeve (laughs). I can do that cause you can do anything here! Can I?" (Marina tested the truth of the instructions given by R).

R: "You can do anything you think is best".

M: "Oooh yukkie, its on my sleeve. You can get it off this way. What will mummy say? ... she won't mind!"

R: "Mummy won't mind that you've got slime on your sleeve?"

M: "No, she won't get cross (laughs). Here's a phone. I'll ring up mummy and tell her here I've had a good time (Dials). Hello, is mummy there? Hello, its me, I've been playing. I've had a good time here. Pardon? (Aside to R), Mummy wants to know if I've been a good girl".

R: "You've been a good girl".

M: "Yes, he says I've been a good girl ...mm ... all right ... I have to go now, bye. I talked to mummy".

Marina's first comment of the second session was: "I couldn't wait for you to come yesterday".

Mike too, seemed quite relaxed in his first contact. He spent 40 minutes playing with the Lego, and discussed this with R. His speech was flighty and breathy, but he seemed at ease. His second contact began with a discourse on Telethon, and the burns he sustained to his finger from an accident over the weekend.

Once rapport had been adequately established, the children seemed to enjoy the contacts, making frequent requests for longer time with R or more frequent visits.

Marina (covering R with paper): "I want to wrap you up to keep you here so I can be here forever".

R: "You'd like to keep me here so you can stay too, all the time".

At the end of this session, Marina looked sheepishly out of the door;

R: "You don't want to go this morning".

M: "No".

R: "You like it here, and you want to stay".

M: "Mmm. I've got to get my lunch. Bye.

R: "We've only a few minutes left Mike".

Mike responded by looking sad; his face dropped.

R: "You're sad that we have only a little time left".

M: "I wish I could come and see you every day".

R: "You want to visit and play every day?"

M: "Mmmm".

During her sixth session, Jane took to bouncing the hard ball all round the room, and tossing it to R. This soon became quite boisterous, and Jane laughed continuously.

J: "I wonder why I laugh a lot - I'm excited".

R: "You're enjoying it today?

J: "Yeeaahh".

Sarah, a small bright eyed girl seemed to enjoy the sessions a lot, and commented on the toys frequently;

S: "I like these toys. I wanted to meet you at the gate ..."

R: "You came to meet me, that's nice!"

S: "... on my motorbike".

In terms of beneficial changes in behaviour, the children did not respond uniformly or in a similar manner. Rochelle made quite noticeable gains in her verbal behaviour. Her foster mother had informed R that she had always been very quiet, an observation likewise made at her school. In her first session, she made two spontaneous comments. In her second, she made three; her third, five; her fourth, seven. Her fifth, sixth and seventh contacts remained around this level, but after eight weeks, she made 15 spontaneous comments. The reader will recall that in the last contact, she conversed with R for twenty minutes before beginning to play. During her activities, she discussed her games with R. Rochelle's foster mother noted that Rochelle had begun to talk a lot more; again this was commented upon at school. These comments were made to R during Rochelle's sixth contact.

Jane too, had begun to talk a lot more, and partake actively in class activities.

Marina acted out a number of small plays with the glove puppets, often referring to people in her world.

M: I'm a magic witch and I'm gonna put a spell on my mother and I'm gonna put a spell on my teacher and make it all O.K: everything will be alright".

Jane also seemed to act out the frustration she apparently felt toward one of her sisters by building her name with alphabet blocks, and then sweeping it away with her hand. J: "I hate _____, she always picks on me. _____ is the odd one out".

One might well attribute changes such as these not so much to therapy, but simply to the children getting to know R more personally, and becoming used to the situation. This criticism, it would seem, clearly misinterprets and misunderstands the very nature of this kind of approach. Clearly, the criticism may be true in essence, but in reality, this function is of itself part and parcel of the therapeutic process; it is what non directive therapy is all about (i.e. Rogers six conditions of non directive counselling: Chapter IV). During the contact, a meaningful relationship is established; one of warmth, trust and understanding; one in which the client can feel free to express whatever he needs to express without fear of ridicule or rejection. It is a totally supportive yet self dependent state. This is in itself therapeutic. Therapy itself is not a magic wand or guaranteed cure-all box of tricks; in this sense, it is, to use Rogers phraseology, just "the freedom to be".

An example of how not to promote this is as follows. Mike was building a tank with the Lego during one of his sessions. He required a certain piece, which he couldn't find. R searched for, and eventually found the necessary piece, and handed it to Mike.

R: "Here's the part you want".

In doing this, R assumed responsibility for Mike's actions, and implicitly reflected Mike's inability to find it. While this interpretation might appear to be nothing more than unsupportable conjecture, its utility was aptly demonstrated in Mike's consequent behaviour. His face dropped and he appeared quite embarrassed. He leered at R, looking somewhat offended. His face screwed up to a pout. R: "You're angry that I found this instead of you".

M: No, ... well yes, you're naughty".

Mike lightly slapped R on the shoulder.

R: "I'm sorry Mike, I didn't mean to make you angry or upset".

M: "That's O.K".

This example points out the danger of becoming too directive in therapy (and probably reflects R's inexperience). While this may not have applied to every child, in this case rapport seemed to be lost. Mike gave up on his tank, and slammed it away in the box. He seemed, albeit playfully, annoyed at his failure.

At the end of the session, Mike wanted to tie the tie around the Lego box himself. He tied a "super duper Mike Knot. No one can get this undone. That'll fix 'em". It is tempting to summarize that this assertive act was Mike's attempt to re-establish control over things and to reassert his integrity; almost as if he was saying - "here's something only I can do, that'll get you back".

In terms of beneficial changes other than those observed in the spatial responses of the subjects, there were some notable changes in behaviour among the children, although to a large extent these were not readily quantified; the whole nature of the experimental design, purpose and procedure was not essentially directed toward this assessment. However, as assessed by teacher evaluations (refer to Appendix II), the chosen modality of intervention, i.e. Play Therapy, did bring about notable positive changes in behaviour, both in an overall pervasive sense, and with regard to more specific quantifiable increases in desired behaviours.

4. SUMMARY AND CONCLUSIONS

It is difficult in psychological research (or indeed any other sort), to know beforehand exactly what relationships between variables will be significant and meaningful, and therefore warrant experimental attention. Just as one can often get the answers one is looking for simply by asking the right kinds of questions, so too can the converse apply. Fundamental assumptions which may be illfounded or inappropriate can result all too frequently in data which are meaningless or useless. The present study has to some extent been confounded by such a state of affairs in that the assumption of a stability or inconsistency in spatial responses as suggested by previous studies, has not been forthcoming in the data. To the extent that this kind of research is lacking however, this study stands alone. In contrast to the few studies investigating the consistency of spatial responding, the results here suggest an inconsistency or fluidity in Personal Space responses among those who suffer from a degree of emotional instability. Other than that, the results obtained might be attributed to environmental variables primarily associated with events in, or the whole of the educational environment in

which the subjects behaved. Neither explanation however, has really been able to be fully tested.

Clearly, the door is open to future and indeed much needed research in this field, especially of a long term longitudinal nature. Something is known of the parameters of interpersonal interaction which are fundamental to spatial behaviour, yet very little is known of the effects of these parameters and of developmental processes over time: a call for more balanced research then, is being made.

In the light of the present design, a more strict definition of the criteria for emotional disturbance might well yield more meaningful results, although this might prove to be a non issue since the primary criterion for inclusion was abnormality on the S.O.T. It would become an issue if the relationship between spatial abnormality and emotional abnormality could be demonstrated to have greater strength. This might be done by concentrating on problems of a more severe, yet readily diagnosed nature, or by using older subjects; those at a time of life when behaviours are presumed to be more stable, or at least less influenced by developmental processes.

This research has attempted to go beyond the level of mere description by seeking to be analytical in its review of spatial behaviour. Too much of the available research has as its main finding a neat, but simply descriptive statement on Personal Space. In seeking to identify changes in space behaviour, one sets the stage for analysing in more detail the mechanisms of developmental patterns. Clearly, this would be the next logical step from this project. Further, this research has tried to clarify some confusions concerning principle concepts in the spatial behaviour of both animals and Man, from both an ethological and a socio psycho-

logical point of view. Studies in cognition are likely to prove beneficial in expanding our understanding of organismic activity in space, and so a call is made for research advances in this area. Given the complexity of spatial behaviour however, especially in the framework of dynamic interaction, it is likely to be a long time yet before an indepth cognizance of the behaviour and its concomitants will be adequately achieved.

APPENDIX I

LIST OF TOYS USED IN PLAY THERAPY

Donald Duck glove puppet

Dracula glove puppet.

Four finger puppets; Man, Woman, boy, girl.

Puppet screen.

No. 30 'LEGO' building block set.

Telephone.

Soft rubber hand ball.

'MATCHBOX' car.

'MATCHBOX' motorcycle.

Pistol.

'PLAY DOH' Modelling compound, four assorted colours.

Dough cutters.

Rolling pin.

Wooden Alphabet Blocks, two sets.

Toy soldiers, two dozen assorted.

'SLIME' Compound (with worms).

Newsprint paper.

Cardboard tubes.

Scissors.

Crayons.

Felt pens.

Pencils and ballpoint pens.

OTHER EQUIPMENT (AND ROOM FURNISHINGS)

Table.

Chairs.

Assorted books and magazines.

Chalkboard and chalk (in school rooms).

Bedroom furnishings (in foster home rooms).

For a detailed account of equipment and materials which may be used, see Axline (1947) and Somerset (1976).

APPENDIX II

TEACHER REPORTS ON THREE CHILDREN

1. JANE: BEFORE THE PROGRAMME:

Jane was a very quiet child, who blushed when spoken to, and almost never participated in oral discussions. When she did speak, her answers were short and her voice quiet. At the beginning of the year she had no real friends in the classroom, but slowly made a close friend of another very quiet child in the room - Christine.

Jane was quite accepted and liked by the group she sat with, and was part of their conversations and activities, but not really actively so, - she seldom initiated any conversation.

I think Jane had "news" to share only a couple of times all term, and never spontaneously showed things or shared things with other children or adults in the room.

AFTER THE PROGRAMME

In the initial stages of the programme, there was no very noticeable change except that Jane talked about the therapist often, and spontaneously brought things along to show him on Mondays. I never once reminded the children that the therapist was coming on Monday, but she always remembered and brought something or made something to share with him.

After these first few weeks, I began to notice that Jane was participating quite frequently in oral discussions, and had begun to have "news" in the mornings. She and Christine also began to develop a wider circle

of friends, and their games now included two other girls from the class. In group activities, I noticed that Jane was far more vocal (too vocal at times), and was beginning to initiate conversations and activities. These behaviours contined to develop along the same lines as the term went on.

Jane's now a far more confident person than she was before the programme began. I can think of no other marked relevant factors that could account for this change other than the experiences she underwent with the therapist.

Jane now often offers ideas during discussions, and has "news" to share at least once a week. She spontaneously shares exciting happenings in the mornings, and has widened her circle of friends to now include many of the girls/boys in the class at various times. Jane's academic standard was below average, and she seldom finished her work. Now that she is much happier socially, I am able to demand more of her in this area, and her standard of work is beginning to improve. This improvement is in its initial stages at present, but I am sure it will continue as a direct result of the therapist's work.

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2. TRISTAN: BEFORE THE PROGRAMME

In the first term, Tristan was very much a "loner" in the classroom, and in fact did not seem to particularly like the other children and vice versa. The boys always referred to him by his last name, and he refused to play soccer etc. with them when asked. He had even less contact with the girls. Somehow there was a feeling of antagonism between him and others, and he spent his breaks playing only with Nigel. Nigel and he were inseparable last year, but have been put in different classes this year.

Tristan very seldom participated in oral discussions and was always very vague when asked anything. He had a very short concentration span, and even didn't listen to stories for long. His work was never finished, and he wasn't very active in most things he did.

He never offered "news" to the class, and would often come and talk to me about his guinea pigs etc., but never wanted to tell the other children.

I was worried about Tristan and felt he was unhappy at school. It seemed he was "in a world of his own". I had discussed this with his parents but they said he claimed to be very happy at school and always seemed fine. At home, he was quite a different person - talkative, noisy, active etc. I tried to encourage him to widen his circle of friends, and in our human relations programme, we discussed such things. I also reinforced good work/behaviour etc. etc., but little success was made.

AFTER THE PROGRAMME

As with Jane, no change was visible immediately, although again he always talked about the therapist, and always remembered to bring things to share with him on Mondays.

After the first month or so, Tristan began to be a far more active participant in the class. He began to occasionally offer "news" and opinions in group discussions. He began to co-operate better with others in the class. These changes continue to develop.

Tristan is now quite noisy in class and is working well with the other children. They do and share things together, although in the playground he still plays mainly with Nigel. He is far less vague than he

was and his concentration span is much longer. He always seems to listen to stories and oral discussions, and occasionally offers ideas.

He is far more cheerful, and his academic standard has improved. Again, because he is far more confident socially, I feel I can demand more of him academically, and he is beginning to achieve more in this area.

These changes are all in the right direction, and I'm sure they will continue. I can only attribute them to the therapy programme.

---

3. MIKE

Unfortunately, there has been no real change in Mike's behaviour. He has no real friends at school, and spends his breaks helping the older children with the newspaper collections. He is talkative etc. in group situations, but activities usually end up in an argument as he tries to upset or tease someone.

He has a short concentration span and seldom completes any work. His loneliness and other problems make him frustrated, and he will lash out and hit other children at times, for no apparent reason.

I have tried many reinforcement programmes etc. and these do work, but are disrupted for no apparent school reason. However, his parents are having problems at home, and his mother says she's at "her wits end" as to what to do. I feel this is where the problem lies, and there is some breakdown in relations here. He is apparently very aggressive at home, and his parents have little control over him. Mike seems to feel he is being "picked upon".

He has been referred to the Education Psychological Service, and hopefully this will help him and his family.

GENERAL

In any therapeutic work, I think the therapist is a very important factor in its success. The therapist in these cases always had a warm, open and accepting attitude with the children, and thus they liked and trusted him, and responded to his programme.

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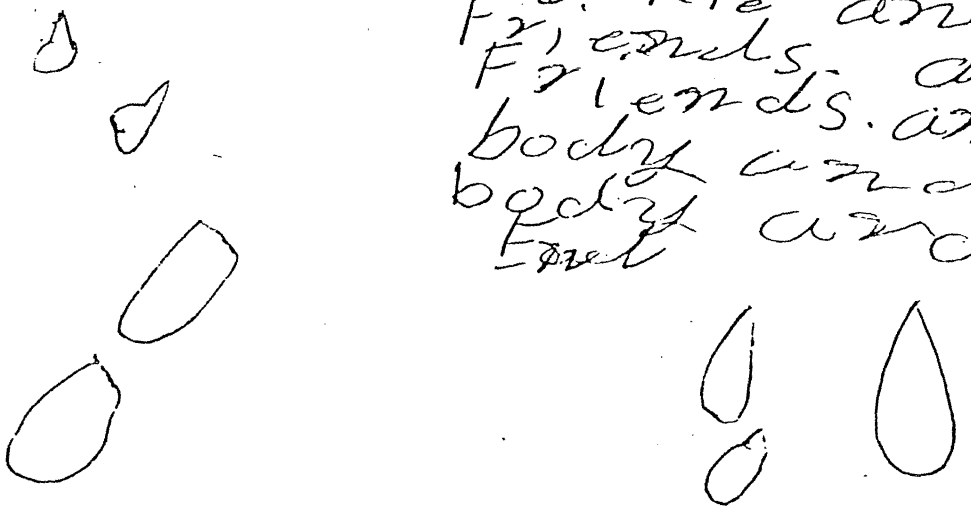
Mother and Sister and Father and Brother and Lindsay and Marie and Duckie and Friends and Super Friends and every body and every body and the



The End of Lindsay Loving to See me ever Again.